~~Q. Cardiolcwy~~

Card I

What is the "most likely diagnosis ' when the fonowülg
additional featlÜes ue described?

A man comes to the emergency department with chest pain that changes with respiration_ The pain is sharp: and is worsened by inhalation. He is shon of breath as wen, but die symptoms are hard to assess because a deep breath causes pain, so he takes short. fast. shallow breaths_

l. The pain changes with bodily position. It is worse when lying flat, and better when sitting up.

2. Fever, cough: sputurn: and hemoptysis

3. Sudden onset of shortness ofbreatha with a normal lung exarnhl.ation

A. Cardiology

4. History of asthma or COPD, with sudden onset of shot-mess cfbreath. Decreased breath sounds on one side.

Card I

I. Pericarditis is associated with pleuritic chest pain that also worsens with changes in bodily position_ Typically: the pain of pericarditis is reüeved when the person sits up, md stretch is relieved fom eye pericardium. Only 30% of patients have a pericardial friction mb If it is present. it helps answer the "most Ikely diagnosis" question_ If the mb is absent. this excludes nothing_ EKG shows PR depression and difise concave ST elevation_

2. Pneumonia is associated with cough, sputum, and hemoptysis_ Fever is nonspecTc_ Every cause ofpleuritic chest pail is associated with a fever.

Q. Cardiolcwy

3. Pulmonary embolus (PE) presents with the sudden onset of shortness of breath and clear lungs on exam_ There is no characteristic physical finding of a PE to allow you to resolve\answer? the diagnosis Sudden onset + normal hmgs = PE .Clue may be patient is Yuck &iver or returned from long plane trip.

4. Pneumothorax: when Imge: decrease breath sounds on one side. Obstructive lumg disease predisposes to pneumothoraces, patticularly when there ue pleural blebs with COPD.

Q. Cardiolcwy

Card 2

A man is brought to the ernergency department after losing consciousness at home_ He wakes up after a few minutes_

l. Sudden loss of consciousness and rapidly regaining consciousness_ He is fully intact when regainhlg consciousness_

2. Sudden loss of consciousness, but he was disoriented for an hour or two on regaining consciousness

Q. Cardiolcwy

3. Gradual loss of consciousness: with shaking; sweating: palpitations, and nausea

4. He has a 10-point rise in pulse. and a 20-point drop in systolic pressure when going from the lying to upright posture_

A. Cardiology

Card 2

I. Cardiac syncope, such as an arrhythmia or Obstrucwe cardiac lesions: results in the sudden loss and regaining of consciousness. Ventricular rhythm distubances such as ventricular tachycardia or fibrülation result in syncope.

2. Seizures result in a sudden loss of consciousness, but the regaining of alertness is slow because ofbeing post ictal_ Seizures result in a gradual regaining of consciousness, descnbed as "post ictal state."

A. Cardiology

3. Metabolic problems such as hypoglycemia: hypoxia: or drug intoxication lead to a gradual loss of consciousness_ This is often accompanied by signs of autonomic hyperexcitabüity such as tachycardia, palpitations, and diaphoresis. You may see Metabolic 1 Respiratory Acidosis 0T Alkalosis?

4. Orthostatic instability leads to syncope in association with a >20-point &op in systolic blood pressure on changing position or a 10-point rise in pulse

A. Cardiology

Card 3

A patient comes to the offce •with palpitations for the last several weeks She denies chest pain or shortness of breath. The sensation is her Ilean flutter away from her chest."

L The pulse is irregularly irregular_

2. She dlilks lots of coffee and the EKG is normal.

3. She is losing weight and has diarrhea. Her eyes are bulged forward. (exophåahnos)

Q. Cardiolcwy

4. There are episodes of flushing and low blood pressure with diarrhea_

Card 3

1. Atrial fibrillation presents with palpitations and an irregularly irregular pulse_ Atrial rhythtn disturbances rarely result in syncope.

2. Caffeine can easüy lead to the feeling ofpalpitations: even with a normal EKG.

A. Cardiology

3. Hyperthyroidism results in weight loss. anxiety; tachycardia7 diarrhea. andpa!pitations About one-third ofpatients have ocular findings such as exophthalmos-

4. Carcinoid syndrome leads to palpitations from the oversecretion of the neurotransrnitter serotonin_ Episodic Rushing, diarrhea: and episodes of hypotension are cornmon_ Note: Palpitations with hypertension should make you think of pheochromocytoma (see Endocrinology card 3).

Q. Cardiolcwy

Card 4

A patient comes to the emergency department •with palpitations found to be from supraventricular tachycardia (SVT) After administration of diltiazem, his rhythm deteriorates to ventricular tachycardia.

L M•mat is the most diagnosis?

A. Cardiology

2. What is the best initial test?

3. Iv%at is die most accurate test?

Card 4

I. Wolff-Parkinson-White OA'YiV) syndrome can present with an atrial arrhythmia alternating with a ventricular arrhythmia. The key to answering the question is worsening of the rhythm after giving a calcium channel blocker (CCB) such as cmtiazem

Q. Cardiolcwy

or verapanN_ The rhythm can also worsen with digoxin_ CCBs and digoxin block conduction though the normal AV nodal pathway and force conduction through the aberrant tract: resulting in a deterioration of the rhyt}nn_

2. EKG showing a short PR interval or delta wave. EKG is the best initial test_

3. Electrophysiological studies are the most accurate test for pre-excitation syndromes such as .

Q. Cardiolcwy

Card S

A patient comes to the offce for routine evaluation. On physical examination he is found to have a pulse of 4S_

Q. Cardiolcwy

l. He is asymptomatic_ He runs five nuües a day

Q. Cardiolcwy

2. He has canon "a" waves in lis neck. Occasionally he is lightheaded.

A. Cardiology

Card 5

1. Sinus bradycardia is a common finding in well-trained athletes. Sinus bradycardia from physical conditioning is always asymptomatic. You cannot be sue the bradycar&a originates at the sinus node unti after die EKG is petfo-rmed.

A. Cardiology

2. Third-degree or "complete" heart block is associated with canon "a" waves in the neck. It is often associated •with symptomatic hypo-tension or syncope, and that is why pacemaker placement is always necessary. C.alon "a" waves restdt from atrial systole against a closed tricuspid valve_ The only condition to have bradycardia and canon "a" waves is complete heart block.

Q. Cardiolcwy

Card 6

A 62 year-old man is in the intensive care unit after a myocardial infarction. He is now suddenly lightheaded and hypotensive.

L There is a holosystolic murmur at the apex; radiating to the axNa_ The lungs are congested

2. Oxygen saturation :hlcreases from 40% in the right atrium to 82 % in the right ventricle _

3. He had an inferior wall infarction. He has tachycardia and clear hmgs.

A. Cardiology

4. Bradycardia and canon "a" waves are present

Card 6

1. Mitral valve rupture leads to acute puhnonary edenxa_ The murmur of mitral regurgitation is holosystolic and radiates to the axilla. Val-ve ruptue usuany occurs a few days to a week after the frfarction.

2. Septal rupture leads to a step up in oxygen saturation as you go from the right abiurn to the right ventricle_ This is from lea -to-fight cardiac shunting.

Q. Cardiolcwy

3. Right ventricular infarction accompanies 30 to 40% of inferior wall ifarctions_ This is because they are both supplied by the right coronary artery. The hmgs axe clear. Patient may also have ruptLue of leh ventricudar fee wan, but outcome that case is innnediate death; not hypotension.

4. Complete heart block leads to bradycardia, hypotension, and canon "a" waves.

Q. Cardiolcwy

Card 7

A man is a&nitted 'With a myocardial infarction of the anterior wall. He suddenly loses his pulse.

l. V,mat is the most diagnosis?

Q. Cardiolcwy

2. What is the best :hitial diagnostic test?

3. What is the best initial therapy?

A. Cardiology

Card 7

L Sudden loss ofpulse can be from asystole: ventricular fibrülationz ventricular tachycardia: or pulseless electrical ac&vity_

2. EKG is the best initial diagnostic test. There is no way to distmguish the etiology ofpulselessness without an EKG_ There is no characteristic physical finding that T.vül allow you to answer the diagnosis.

A. Cardiology

3. Asystole: epinephrine and atropine

Ventricular fibrillation and ventricular tachycardia: usynchmnized cardioversion Pulseless electrical activity: correct die underlying cause 7 such as tension pneunnothorax. pulmonary hypovolemia_ or tamponade

Q. Cardiolcwy

Card 8

A 28 -year-old woman is seen on afollow-up visit for severe hypertension. The pressure is repeatedly elevated_

l. Abnormal sound auscultated at the flanks and abdomen

2. Hypokalemta

Q. Cardiolcwy

3. Episodic with palpitations

4. Epper extremity blood pressure is greater than lower extremity pressure

5. `Hirsutism, clitoromegaly`

A. Cardiology

Card 8

l. Renal artery stenosis is the most when there are bruits heard on examination_ It is also the most common cause of secondary hypertension.

2. M•men you see hypertension combined with hypokalemia, answer Conn's syndrome: or primary hyperaldosteronismz as the most &ely diagnosis.

3. Pheochromocytom a is the only form of hypertension that is episodic in nature_

4. Coarctation of the aorta results in a higher blood pressure in the arms compared to the legs_ The pressure can also differ between the arms , if coarctation occurs before "off shoot" of left subclavian m-tery_

A. Cardiology

5. Congenital adrenal hyperplasia with 11-hydroxylase deficiency leads to hypertension and virilization_ In general. some form of secondary hypertension is the most diagnosis when the patient is utlder 30 or has hypertension that is very hard to control, such as nee&ng more than nvo antmnertenswe medications.

A. Cardiology

Card 9

A man comes in with shortness of breath and a transient ischemic attack. He has hitennittent fever and a diastolic murmur_ The murmur changes markedly with bodly position. The sedimentation rate is elevated.

L M•mat is the most diagnosis?

Q. Cardiolcwy

2. What is the most accurate diagnostic test?

3. Iv%at is die &eatnent?

Card 9

A. Cardiology

1. Atrial myxoma is a benign cardiac tumor that is characterized by a murmur that changes markedly with bodilv position_ This is cded a tumor plop. Myxoma presents with a murmur that is to mitral stenosis because it obstructs diastolic filling There are also systallic symptoms such as fever. elevated sedhnentation rate_ and anernia_ Transient ischemic attack (TIA) is due to embolization of myxoma: as they can be friable and are prone to embohzation_

2. Echocardiography diagnoses atrial myxoma_

Q. Cardiolcwy

3. Surgical removal is dre only therapy.

Card 10

A man comes to the ernergency departrnent with chest pain_ The pain is associated with dyspnea and diaphoresis, and occurs on exertion.

A. Cardiology

L This pain happens every time he walks up one or two flights of stairs_ The pattern of pain is unchanged His EKG is normal_

2. His pain occurred with much less exertion today7 and persisted at rest. His EKG shows ST segment depression_

3. EKG shows ST segment elevation_

A. Cardiology

Card 10

1. Stable angina is chest pain occurring with the same level of exercise_ Stable angina is pain with exertion and is relieved by rest with a normal EKG.

2. Unstable angina is a type of acute coronary syn&ome with a worse pattern of chest pain or pain occurring at rest_ Acute coronary syndrome is the proper name, because you cannot tell f the cardiac enzymes such as die troponins will be elevated unü later_ This may turn out to be a non ST segrnent elevation infarction. cardiac enzymes are elevated_

A. Cardiology

3. Acute myocardial infarction is assumed when there is chest pah with ST segrnent elevation even before the cardiac enzyme results are obtained The majority ofpatients with chest pain and ST segment elevation develop elevated troponin and CPK-N'TB levels The patient would be a candidate for thrombolysis and/or inmmediate cardiac catheterization.

Q. Cardiolcwy

Card 11

A man comes in with pain in his leg for the last several weeks The pain occurs while he is walking and is relieved when he sits down.

A. Cardiology

L The pain is unilateral and OCCUTS with any form of exertion of the leg_ The skin is smooth with loss of hair and skin appendages.

2. The pain is bilateral_ It is worse when walking downhill. He has no pain when bicycling_

Card11

Q. Cardiolcwy

I. Peripheral arterial disease occurs as pain with any form of exertion of the lower extremities and is relieved by rest. As it worsens, there is loss of appendages such as hü folücles and sweat glands. The case may also descnbe improvement when "danghg the legs off the side of the bed" This is from gravity increasing blood flow to the legs.

2. Spinal stenosis results in bilateral leg pain that is highly dependent on bodily position. It is much worse with anything that has the patient leaning back. such as walking downhdl_ It is relieved by leaning forward. such as sitting or bicycling It is not the

exertion that leads to the pain; it is the pressme of the spinal cord on the ligarnenturn flavurn in the spinal canal_ VIRI of the spur, Wzely lumbu, wdl demonsyate the stenosis.

Card 12

A 34-year-old woman comes to the offce with palpitations and atypical chest pain_ pain has no frcedpattem to exercise. Physical xamination reveals a mid-systolic sound followed by a murmur. The murmur worsens with Val-salva and improves with leg raising.

Q. Cardiolcwy

l. What is the most ü-ely diagnosis?
2. What is the treatment?

Card 12

A. Cardiology

1. Mitral valve prolapse (MVP) is the most diagnosis when the question descnbes atypical chest pain and palpitations in a young female. There is a mid-systolic click followed by a murmur. Valsa}va wil worsen only die murmurs cf MVP and hypertrophic obstructive cardiomyopathy.

2. is confrmed with echocardiography. It is treated with beta-blockers. Endocarditis prophylaxis prior to dental procedures is no longer recomrnended_

Q. Cardiolcwy

Card 13

A healthy young man starts to experience shortness of breath with exertion. He has an episode of syncope while playing basketball. Examinationreveals a systoüc murmur at the lower len sternal border. The murmur worsens with Valsalva and improves with squatting_

A. Cardiology

l. What is the most Ikely diagnosis?
2. What is the best initial therapy?

Card 13

Q. Cardiolcwy

1. Hypertrophic obstructive cardiomyopathy (HOCM) most often presents with shortness ofbreath. It can also cause syncope and rarely may lead to sudden death. The murmur has the same crescendo/decresccndo pattern as aortic stenosis but is heard best at the lower leftsternal border, Aortic stenosis is heard best at the second right intercostal space and radiates to the carotid arteries_

A. Cardiology

2. HOCM should be treated with beta-blockers. If syncope occurs. an :hnplantable cardioverter/defibrÜ1ator should be placed_ Endocarditis prophylaxis prior to dental procedures is no longer recormnended_

Q. Cardiolcwy

Card 14

A patient comes to the offce •with progressively worsening shortness ofbreath on exertion and a murmur_ There is edema.

l. Pregnant woman with a diastolic extra soundfollowed by a murmur_ She has dysphagia and hoarseness_

A. Cardiology

2. Older man with angina and a systolic mm-mur radiating to the carotid arteries

3. Diastolic decrescendo murmur with a wide pulse presstue

Q. Cardiolcwy

Card 14

1. Mitral stenosis often becomes symptomatic during pregnancy because of the marked increase in plasma volmne during pregnancy. Dysphagia and hoarseness happen fom enlargement of the leh atrium pressilg on the esophagus and recurrent laryngeal nerve. Another clinical clue is the presence of an "openhlg snap[u]

2. Aortic stenosis is a systoYc murmur radiating to the arteries. Angina is the most common presentation cf aortic

A. Cardiology

3. Aortic regurgitation presents with shomess ofbreath, but dis is a nonspecåc friding. The key to the answer is the diastolic decrescendo murmur at the lower left sternal border and the wide pulse pressure _

Card15

A man with a history ofhypertension comes to the emergency department with the sudden onset of sharp chest pain radiating to his back. There is a Is-point differ-ence in blood pressure between the left and right arms. A diastolic decrescendo murmur is present_

Q. Cardiolcwy

l. What is the most Ikely diagnosis?
2. What is the best initial diagnostic test?

3. What is the most accurate diagnostic test ?

Card 15

A. Cardiology

1. Aortic dissection presents •with the sudden onset of chest pain radiating to the back, particularly between the shoulder blades. Hypertension is, by fu, Oue most common risk factor The key to answerilg the diagnostic question is the pain radiating to the back, the wide pulse pressure from aortic regurgitation. and the difference in pressure between the arms.

2. The best inåal test is a chest x-ray, which may show a widened mediastinum.

3. Transesophageal echocardiogram: CT angiogram, and magnetic resonance angiography each have about 90—950 0 sensitivity_ Aortic angiog-raphy is åe shigle most accurate test. Transthoracic echocardogam is not the test cfchoice due to hnited accuracy; managernent is aggressive control of systolic blood pressure (100—120mm Hg).

Q. Cardiolcwy

Card 16

A patient comes in with shortness of breath on exertion, orthopnea, büateral lower extremity edema, and jugulovenous distention. There is amarked improvement with furosetnide.

L Multiple infarctions: alcoholism, and a low ejection fraction on echocardiograrn

2. Long history of hypertension and an ejection fraction of 70%

A. Cardiology

3. Hemocluomatosis, sarcoid, or amylo-idosis on history

Card 16

1. Dilated cardiomyopathy presents •with a listory ofmultiple infarctions or alcoholism. The low ejection fraction and systolic dysfunction are the key to Oue diagnosis. AL forms cfcardiomyopathy lead to shortness cfbreath, dyspnea on exerion, edema, and orthopnea

Q. Cardiolcwy

2. Hypertrophic cardiomyopatby retains a normal or hyperdynamic ejection fraction. Longstanüg hypertension leads to h-npüed diastolic dysfimction_

3. Restrictive cardiomyopatby is, by far, the least common cause of congestive failure. Sarcoidosis, amyloidosis, and hemochromatosis are the key to the diagno •

A. Cardiology

Card 17

A patient comes in with a long history of shortness ofbreath: edenma: ascites: and hepato-splenomegaly The patient is an immigrant. There is a rise jugulovenous distention with inhalation. There is a heart sound in diastole.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Q. Cardiolcwy

3. Iv%at is die most effective treatment?

Card 17

I. Constrictive pericarditis presents with shortness ofbreath and ederna_ This is nonspecific The key to answering the diagnostic question is die presence of Kussmaul's sign, which is a rise in jugulovenous pressure on inhalation. Constrictive pericarditis is most often from tuberculosisz which causes chronic inflanumation of the pericardiurn_ The third heart sound in diastole is the pericardial *knock.

A. Cardiology

2. The most accurate test is a CT or WIRI scan of the chest.

3. The only effective therapy for consütive pericarditis is surgical removal of the pericardiun. The presenülg symptoms of constrictive pericarditis can nuimic those ofrestlictive cardiomyopathy One of the distinguishing characteristics is the presence of equalization of left and Tight sided heart pressures in constrictive pericarditis_

Q. Emergency Medicine

Card I

What is the "most likely diagnosis '
in each cf diese cases?

A patient is brought to the emergency department after being hit in the head with a baseball. He lost consciousness and is now awake.

1. He has no focal neurologic deficits and the CT scan is normal.

A. Emergency Medic:ine

2. He has weakness of the arm. and CT sc.an shows a collection of blood_ One pupil is dilated_

3. His CT scan shows an ecchymosis.

Card I

I. Concussion is caused by head traunna_ There can be loss of consciousness or altered mental status_ There is no anatomic damage to the brain.
The CT scan is normal.

Q. Emergency Medicine

2. Subdural and epidural bematoma both lead to a collection of blood around the brain, visible on head CT. There can be focal neu-rologic defects and a cmated pupü on one side_

3. Ecchymosis ofåe brain results from head u-aumm This is al•o called a "contusion". Mdst of the üne there are no focal neurologic deficits_ No surgery is required Blood mixed in with brain. an ecchymosis, is visible on CT scan and is. essentially. a bruise_ No surgery is indicated.

Q. Emergency Medicine

Card 2

A patient comes in with the sudden onset of a high fever and a change in mental status_ All cultures are negative and there is no neck st.örss. His CPK level is elevated.

l. He has recently been started on risperidone in addition to haloperidol_

Q. Emergency Medicine

2. He has just undergone major surgery_

3. He is outside on the beach playing volleyball in the summer.

A. Emergency Medic:ine
Card 2

I. Neuroleptic malignant syndrome presents with a high temperature and altered mental status in relation to starting neuroleptic medications. This is probably related to the antidopaminergic effects of these medications. CPK and potassium elevation can OCCUL Treatment is with dantrolene and dopamine agonist medications such as bromocriptine_

2. Neuroleptic malignant syndrome is caused by general anesthetics or succinylcholine. CPK elevations can 71<0 occur. Treatment is with dantrolene.

3. Heat stroke OCCUfS in relation to dehydration and increased ambient temperature. There is high fever and confusion. Treatrnent is with hydration and physical measures to cool the patient_ Aerosolizing water and evaporation is the most precise method of cooling the patient and does not lead to overcooling.

Card I

What is the "most likely diagnosis ' when the following ad&tional features ue described?

Endocrinology

A.

A female chid is brought to you because of abnormal bair growth. She has not developed menstruation and she has acne, hirsutism of her face. and abnormal balding.

l. Hypotension, hyperkalemia, hyponatremia, and elevated levels of 17-hy&oxyprogesterone with diminished 11deoxycortisone

2. Hypertension, hypokalemia, and metabolic alkalosis. Levels cf 11 -deoxycortisone ue elevated

Card I

1. 21-Hydroxylase deficiency presents with hypotension, hyperkale-mia: and metabolic acidosis because of the loss of stffcient miner-alocorticoid activity. Bodl aldosterone and 1 1 -deoxycortisone levels ue decreased Adrenal hormones are shunted into the excess production of DHEA. which accounts for ambiguous genitalia in such as clitoromegaly _ In addition, there is acne and hirsutism_ All forms of congenital adrenal hyperplasia have elevated levels of ACTH and low levels of cortisol. 17-Hy&oxyprogesterone levels axe increased because dlis is the precursor that should be converted by 21hydroxylase.

2. 11-Hydroxylase deficiency presents with hypertension and hypokalemia because of levels of 11deoxycortisone (1 IDOC)_ 1 IDOC has nineralocorticoid activity_ which accounts for the hypertension and metabolic alkalosis_ Adrenal

Endocrinology

A.

hormones end up shunted klto the production of adrenal androgens such as DHEA_ Conn[7]s syndrome would present simnar, but with elevated levels of aldosterone and decreased renin.

Card 2

A man comes to the ernergency departnyent with weakness and orthostatic hypoten-sion_ He has hyperpigmented skin, hyponatremia, byperkalemia, and metabolic acidosis. Dark Knes ue visble on lis gums above the teeth.

L M•mat is the most diagnosis?

2. What is the next step in the managernent of this patient?

3. Iv%at is die most accurate diagnostic test?

Card 2

L Addison's disease and Addisonian crisis are the loss of aldostaone from the adrenal gland resulting in loss of sodium and water and the development of hypotension. In addition, hypoaldosteronism results hyponatremia, hyperkalemia and metabolic acidosis.Hyperpigmentation results from the high ACTH level and high pro-opiomelanocortin_ The hyperpigmentation also gives dark lines in the gums_

A.

2. The most urgent step is to draw a cortisol level and administer saline and hydrocortisone! A specific mineralocorticoid such as flu&ocorti-sone is often not necessary_ Acute treatment is more hnportant than waiting for the results of specific endocrile diagnostic tests because of the risk of death from hemodynamic compromise.

3. Cosyntropin stimulation testing is the most specific test. This is the measurement of cortisol levels before and after admüliste-tüig artmcid ACTH. In a normal patient the cortisol level rise with cosyntropin.

Endocrinology

Q.

Card 3

A young man is being evaluated for hypertension_ He has episodes of headache, palpitations, tachycardia, and sweating along with die hypertension.

Endocrinology

A.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Card 3

Endocrinology

Q.

1. Pheochromocytoma presents with episodes ofhypertension, palpitations, tachycardia, and headache. The clue to the diagnosis is the episodic nature of die hypertension. The other symptoms ue rather nonspe±:.

2. The best initial test is the blood level of free metanephrines_ This is more sensitive than levels ofepinephrine and norepülepluine because the catecholamines are secreted an episodic fachion and have a short hay-Ye. A 24-bour urine for

A.

catecholamines and metanephrines is highly sensitive and specific as well_ Use CT or NfRI scannhlg of the adrenal glands if the catecholamine levels are elevated in order to localize the turnor_

Q.

Card 4

A patient comes in with muscular weakness, poly-uria: and polydipsia_ There is a metabolic alkalosis and the potassium level is profoundly low at 2.5 mEq,'L.

l. Hypertension, low renin activity without edenma

Q.

2. High renin and high aldosterone activity witllan elevated level of urinary sodium unti the body is depleted of sodiurn_ Urinary calcium is high. Normal BP_

3. Patient has a box oflicorice in lis hand_ The renin level is low BP is high_

A.

Card 4

1. Primary hyperaldosteronisrnr or Conn•s syn&ome, presents with hypertension, hypokalemia, and metabolic alkalosis_ The plasma renin actÄity is suppressed because of hypertension. High aldosterone levels with low rerün levels is the l'±luk of primary hyperaldosteron ism_ The patient's muscular weakness is from low potassium_ The polyuria is nephrogenic diabetes insipidus from hyvokalemia_

A.

2. Banter' s syndrome is from a genetic defect in the loop ofHenle.Patients lose sodium, chloride, and calcium, resulting in volume depletion and secondary elevations in renin and aldosterone levels_ BP is normal or low.

3. Licorice contains a substance that is similar in function to aldosterone. Licorice ingestion wil present an identical fashion to primary hyperaldosteronism_ Anything that gives a low potassium leads to muscular weakness. That is a nonspecffc finding of hypoka-lemia- BP is high.

Q.

Card S

A man comes in with a long history of episodic Rushing of his head and neck. The flushing is associated With strong emotions and the use of alcohol. He is hypotensive and tachycardic with åe episodes. He has abdominal cramping and diarrhea. On physical examinationv there are telangiectasia and the murmurs of tricuspid insufficiency and pulmonic stenosis_

Endocrinology

A.

l. What is the most Ikely diagnosis?

2. What is the best initial diagnostic test?

Card 5

Endocrinology

Q.

I. Carcinoid syndrome most often presents with episodes of cutane-ous flushing in association with diarrhea and abdominal cramping. Hypotension and tachycardia occur with the episodes. The recurent episodes ofHushing lead to vascular telangiectasia_ Longstanding disease is associated with right sided cardiac lesions from the chronic exposure to serotonin_ Some patients have wheezing_

A.

2. The best initial test is a urinary hydroxyindoleacetic acid (S-HIAA) level. The turnors are locaKzed in the gastrointestinal tract with abdominal computed tomography (CT) and pentebeotide hnaging (indiunnl I I octreotide imaging).

Endocrinology

Q.

Card 6

A woman comes to the offce for an offensive body odor and excess sweating that she is umable to explain or resolve_ Her ring, hat, and shoe sizes have been increasing die last few years. Her voice is thick and her jaw is protruding and enlarged She also has joint pain_

l. What is the most Ikely diagnosis?

2. What is the best initial test?

A.

3. What is the most corm-non cause of death?

Card 6

1. Acromegaly is most often from a pituitary tumor secreting growth hormone_ This leads to enlargement of hat, shoe, ring, and glove sizes, beginnhg in the patient's 30' or 40'. Arthropathy occurs from excessive articular cartiage profferation. Entrapment neuropathies such as cm-pal tunnel syn&ome can also occur Diabetes occurs in 10—20% ofpatients .Amenorrhea can result from excess secretion ofprolactin_

Q.

2. The best initial test is a level of insulin-like growth factor (IGF-I)_ This is confrmed by finåmg a fanure of growth hormone suppression by the infusion of glucose_

3. The most comrnon cause of death in acromegaly is from the effect of growth hormone on the heart and hypertension_ There is an increased risk of colonic polyps and cancer as wen.

Q.

Card 7

A woman comes to the offce because of infrequent periods_ Her menstrual abnormalities have been going on for several months. On physical exanination, she has galac-torrbea. Her urine HCG is normal.

Endocrinology

Q.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Endocrinology

A.

Card 7

L Galactorrhea is the abnormally increased flow of from the breasts_ It is cause by hyperprolactinemia_ Medications such as alpha-methyldopa dicyclic antidepressants or phenothiazines and beta-blockers can cause it. It can occur normally from pregnancy and the first step is always a pregnancy test. Head traunna can rupture the pituitary stak and re-

A.

nove the normally inhibitory dopamine that comes down from the hypothalanms_ If these have been excluc:E N'IR-I of the brain may show a pituitary tumor. Prolactin inhibits the release of leuteinizing hormone (LH) md it&its menstruaüon-

2. Measure the prolactin level_ If it is markedly elevated in the absence of pregnancy: then an MRI is the most accurate test to detect a pituitary lesion.

Endocrinology

A.

Card 8

A patient comes in with anxiety: unexplained weight loss, diarrhea, tachycardia: and palpitations_ Physical examination shows tremor, thin hair, and moist skin. The thyroxine (14) level is elevated.

1. Exophthalmos, skin abnormalities above the knee, and proptosis

2. An elevated thyroid stimulathug hormone (TSH) level

Q.

3. A tender gland

4. Normal appearing gland, low TSH, low radioactive iodine uptake

Card 8

1. Graves disease is characterized by ocular and skin findings The radioactive iodine scan reveals a hyper-functioning gland_ The TSH is low. Treatment is Wiff methimazole or propyl thio oraci (PTO, fonowed by radoactive ablation and hormone replaceanenta hypothyroid_

A.

2. TSH-producing pituitary tumors are the only form of hyperthyroidism associated with an elevated level of TSH. Perform an MRI of the brain to confrm the diagnosis_

3. Subacute thyroiditis is associated with a tender gland. The TSH level wm be suppressed and the radioactive io&ne uptak-e (RAIL") will be diminished _

4. Silent thyroiditis is associated with a normal-appeüg gland, low TSH level, and low RAIL. The gland is nontender.

Q.

Card 9

A young woman comes to see you because of the failure to undergo menarche_ She has normal breast development but a paucity of pubic hair. The vagina is short and Ole cervix is absent.

Endocrinology

A.

L M•mat is the most diagnosis?

2. What is the treatment?

Card 9

Endocrinology

Q.

1. Testicular feminization or complete androgen insensitivity often comes to light when there is the to achieve menses at the appropriate thne. The patient appears female, with normal breast development, but there is a marked diminishment in the amount of pubic and axillary hair_ The vagina is short, and the cervix, uterus, and ovaries are absent_ Testicles can be found in the abdomen or labia.

A.

2. Surgical removal of the gonad witll estrogen replacement and dilation of the vagina is the managenuent_ These patients are emotionally and socially functional as females_

Q. Gastroenterolwv

Card I

A 72 year-old man comes to the etnergency department with the sudden onset ofva-y severe mid-abdominal pain_ He has a

listory of aortic stenosis, coronary disease, and atrial fibrilation- He has been losing weight. His abdominal examination is relatively benign compared to his severe pain_ His stool is heme-positive.

A. Gastroenterolo•4"

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

3. What is the most effective therapy?

Card I

1. Mesenteric ischemia presents with severe abdominal pain that is far more hitense than the relatively benign examination would suggest. It is nid-abdominal. It often occus in association with valvular heart disease, coronary artery &sease, and atrial fib-rmation_ Mesenteric ischemia is oftenfrom an acute embolic event to the mesenteric artery.

2. Mesenteric arteriograpby is the most accurate diagnostic test.

3. Treahnent is by exploratory laparotomy for possible resection ofthe affected segment of bowel Patients with signs of peritonitis should go &ecdy for laparotomy. infarction occurs, death is highly probable.

A. Gastroenterolo•4"

Card 2

What is the "most likely diagnosis ' r when the following additional feat-mes are descrü)ed?

A man is brought to the :mergency department with multiple episodes of vomiting blood_ He also has diarrhea and black stool_

1. The bleedng was preceded by severe and violent retching_

2. He has mid-epigastric pain that was relieved by food.

3. He is an alcoholic with low platelets and spider angiomata_ The vohnne of hematemesis is enormous.

Card 2

A. Gastroenterolo•4"

1. Mallory-Weiss tears are non-bansmural tears in the esophageal mucosa_ This is preceded by repeated episodes of retching or vomiting for any reason. Any form of upper gastrointesülal (GI) bleeding can result in melena more than 100 to 200 mL of blood is lost.

2. Duodenal ulcer is the most common cause of upper GI bleeding. Duodenal ulcers present with epigastric pain. The pain can be relieved by food Endoscppy is necessary for a specfic diagnosis_

3. Esophageal varices lead to the highest mortality cfany form of GI bleeding. The case wül lescribeWer disease. Severe cirrhosis is often associated by splenomegaly with the splenic sequestration ofplatelets_

Q. Gastroenterology

Card 3

A man is brought to the ernergency department with multiple episodes of red blood in his stool.

Q. Gastroenterology

l. V,mat is the most diagnosis?

2. What is the most accuate dagnostic test?

A. Gastroenterolo•4"

Card 3

1. Lower gastrointestinal (GI) bleeding is most cormnonly caused by diverticulosis and angiodysplasia_ Other causes are polyps, colon cancer, and ischemic colitis.

2. Colonoscopy is the most accurate diagnostic test of lower gastrointestinal bleeding. There is no way to determhe the precise etiology of colonic bleeding without endoscopy. Barium studes, angiography and CT scanning cannot lead to a specfic diagnosis.

Q. Gastroenterology

3. Hemorrhoids may al•o lead to red blood in stool. Often, the history wil menüon that the patient notes hematochezia ud\or red blood on wipilg.

Card 4

A 32-year-old man comes to the offce with one day of diarrhea_ There is no blood in the stool_

l. There is vonuiting He recently ate Chinese food_

A. Gastroenterolo•4"

2. He has recently been on a camping trip. He has bloating and flatLdence.

3. He is HIV -positive with CD4 cells.

4. There is flushing and wheezing He ate fresh fish on the same day_

A. Gastroenterolo•4"

Card 4

l. Bacillus cereus is associated •with refried Chinese rice_ As with Staphylococcusaureusy there is no blood in the stool because it is a preformed toxin. Both organisms often present with vomiting.

2. Giardiasis is associated with unfiltered water: such as foumd on a canmping trip_ Bloating and flatus are conmmon_ Giardiasis is cu mhmic fat malabsorption.

A. Gastroenterolo•4"

3. Cryptosporidiosis is an organism that is corm-non in those with AIDS and profound immunosuppression_ The diarrhea is often chronic and responds to treaunent of the umderl•yfrlg HIV disease.

4. Scombroid is histamine fish poisoning. Bacteria that produce histamine infect tuna, mackerel, or mahi-mahi: resulting in the rapid onset of diarrhea, vomiting, flushing, and wheezing.

Q. Gastroenterology

Card S

A 35 -year-old woman comes to the offce with several months of crampy lower abdominal pain_ She has diarrhea: but there is never blood in the stool. There is no weight loss.

L The diarrhea alternates with constipation. The pain is relieved with a bowel movenxent_ All symptoms afe less at night.

Q. Gastroenterology

2. She has episodes of flushing and hypotension_

3. A &etary change relieves al the symptoms within 24 hours.

Q. Gastroenterology

Card 5

1. Irritable bowel syndrome (IBS) is a pain syndrome that often has diarrhea alternating with constipation_ A] symptoms are less at night and the pain can be relieved by a bowel movement. The key feature to the dagnosis of IBS is abdominal pain with completely normal tests_

2. Carcinoid syndrome presents widl episodes cfdiarrhea, flushing, and hypotension. Urinary 5-HIAA confrms die diagnosis.

A. Gastroenterolo•4"

3. Lactose intolerance presents with diarrhea in the absence of weight loss. Removal of products and cheese reYeves die symptoms_ Celiac disease would lead to weight loss and would need several weeks for symptoms to resolve_ Celiac disease would also be related to gluten containing products_

Card 6

A generally healthy 40-year old man comes to the emergency deparment with several days of bloody diarrhea which occuredfour times today. He has a temperature of 102F, pulse 105, and BP 112/78.

Q. Gastroenterology

l. He has been eating raw oysters and clatns_

2. He has had mussels_ He has a history of liver disease_ Physical shows bullous skin lesions.

3. Anemia, drombocytopenia, and an elevated creatinüie ue present. The reticulocyte count, biirubin, LDH ue elevated, and haptoglobin is low.

A. Gastroenterolo•4"

Card 6

L Vibrio parahemolyticus is transrnitted by shellfish such as oysters and clarns_ Shellfish are filter feeders that concentrate microorganisms as they feed åemsehres.

Q. Gastroenterology

2. Vibrio vulnificusis associated with diarrhea in patients with liver disease who consunne contaminated shellfish_ There is also an increased üicidence cf developing bullous skin lesions.

3. E. coli 0157 is associated with the development of hemolytic uremic syndrome_

A. Gastroenterolo•4"

Card 7

A patient comes in with epi-gastric discomfort that radiates up into the chest and is substernal in location_ He has a cough, hoarseness, and a bad taste his mouth, he is "sucl±lg on pennies."

L M•mat is the most diagnosis?

Q. Gastroenterology

2. What is the most accurate test?

3. Iv%at wotdd you do frst in the management of this patient?

Card 7

A. Gastroenterolo•4"

1. Gastroesophageal reflux disease (GERD) leads to epigastric pain that radiates up under the sternum_ In addition: the acid hits the back of the tongue, leading to a bitter taste in the mouth. When acid lits the vocal cords there is hoarseness and someth-nes coughing and wheezing_

2. The most accurate test of GEBD is the 24-hour pH monitor.

Q. Gastroenterology

3. The fist thing to do for GERD is to start therapy with a proton inhibitor_ (PPI) _ This is both diagnosüc and therapeutic.

Card 8

A man is evaluated in the offce for several weeks of epigastric discomfort and pain_

A. Gastroenterolo•4"

l. He is an alcoholic and there is epigastric tenderness.

2. He has no other symptoms. Al lab tests are nonnal.

3. He has had two episodes of black stool_ The pain is better with food_

Q. Gastroenterology

Card 8

I. Pancreatitis is the only fortn of acute epigastric pain that is reliably associated with tenderness_ Gastritis and ulcer disease are rarely associated with epigastric tendemess unless a perforation has occure&

2. Non-ulcer dyspepsia is the most common cause of epigastric discomfort_ There is epigast+ic pain with an entirely normal exanül.ation, inchiding a normal endoscopy. The etiology is not known.

A. Gastroenterolo•4"

3. Ulcer disease is the most corm-non cause ofupper GI bleeding_ Ulcers are not as corm-non as non-ulcer dyspepsia as a cause of epigastric pain. Duodenal ulcers ue more often huproved with eating. Gastric ulcers are worsened with eating. An upper endoscopy (EGD) can be diagnosåc.

Card 9

A 22-yearq)ld woman comes to the offce with recurrent episodes of diarrhea, fatigue, and abdominal pain_ There is occasional blood. In addition, she has joint pain, erythema nodosum, and uveitis. The he-matocrit is 32, MCV is 90, and

die ESR is elevated_ Alkaline phospha tase is elevated but the bhbin is normal_ Stool culture and ova! parasite exani show nothing.

l. Rectal bleeding is common. Anti-neutrophilc30plasmic antibodies (ANCA) ue present and anti-saccharomyces cerevisiae antibodies (ASCA) are negative_

2. Perianal and stud-bowel &sease is present. A fistLda was present the past. Granulomas ze present on biopsy. ANCA is negative and ASCA is positive. A mass is pah)able in the abdomen_

A. Gastroenterolo•4"

Card 9

1. Ulcerative colitis (UC) presents with recurrent episodes of bloody diarrhea and pus from the rectum. The extra intestinal manfestations of both forms of inflammatory bowel disease (IDD) are identical. Both give joint, skin, and ocular symptoms. Bodl can give sclerosing cholangitis UC gives a positive ANCA and negaffve ASCA.

Q. Gastroenterology

2. Crohn's disease (CD) gives small bowel disease, fistulae, and peri-anal &sease addition to "skip" lesions. Granulomas are characterisKc of CD_ CD gives a negative ANCA and positive ASCA_ Anemia. low albunnhl levelS7 and a high sedi:nentation rate can be foumd in both diseases_ Crohn[7] s is transmural inflarnmation whereas CC is limited to the mucosa_

A. Gastroenterolo•4"

Card 10

A woman is evaluated in the offce for moderate hepato-megaly and elevation of the AST, ALT, and bilirubin_ A few spider neviue present on theskin.

Q. Gastroenterology

l. The anti-nuclear antibody (ANA) and anti-smooth muscle antibody are positive. Gammaglobulins are also elevated and there is a brisk response to prednisone.

2. Hepatomegaly is the main finding in a woman with diabetes, obesity and hypertriglyceridemia_ The ALT is slightly higher than the AST. F atty Wer is seen on hnaging. She does not Oink alcohol

A. Gastroenterolo•4"

Card 10

1. Autoimmune hepatitis presents with hepatomegaly and the stigmata of chronic liver disease The ANA is often positive and the gammaglob-ulin levels are elevated. Less reliable findings are Oue presence of anti-smooth muscle antibodies and the liver-kidney microsomal antibody_ Autoimrnune hepatitis responds briskly to prednisone use_

Q. Gastroenterology

2. Non-alcoholic steatohepatitis (NASH) is associated •with obesity, diabetes, and hyperlipidemia. The liver biopsy shows the fatty infil-tration you would see in a patient with alcoholic liver disease but there is no history of significant alcohol use_ NASH is associated with an ALT slightly greater than AST This is the opposite in a person with alcoholic liver disease. Thereis no definitive treatment for NASH besides losing weight and controlling the &abetes and hyperlipidemia.

A. Gastroenterolo•4"

Card 11

A 38 -year-old man comes in with weight loss, flatulence, diarrhea, malodorous stool, and weakness. He bruises and lis calcium level is low. Hematocrit is 29. Sudan black stül is positive.

Q. Gastroenterology

l. Iron deficiency is present_ Folate level is low: He has a skin rash withvesicles Anti-gliadin and tissue transglutaminase antibodies are positive.

2. Chronic alcoholic with epigastric pain and normal folate and iron levels Calcification of the pancreas on CT scanning, Lipase and amylase level are normal

A. Gastroenterolo•4"

11

Card

I. Celiac disease and chronic pancreatitis both present with steator-rhea and weight loss_ Both diseases lead to malabsorption of fat which is associated with the loss of calcium and vitamin K, easy bruising, and malabsorption of vitamin B12. Only celiac disease leads to malabsorption of iron and folate. Iron andfolate need an intact bowel wall to be absorbed but do not need pancreatic enzymes to be absorbed_ The most accurate diagnostic test for celiac disease is a smallbowel biopsy.

A. Gastroenterolo•4"

2. Chronic pancreatitis is most often from alcohol. The iron and folate levels are normaL Lipase and amylase levels are normal in most patients with far advanced pancreatitis. Calcifications are present on CT scanning of the pancreas only 70—80% ofpatients_ The most accurate diagnostic test is a secretin stimulation test_ Secre-tin should provoke the release of bicarbonate-rich pancreatic enzymes in a normal person_

Card 12

A man comes in with dysphagia and weight loss.

l. Younger patient (40) with dysphagia for bothsolids and liquids at the same th-ne

2. A 65-year-old man Wiff long listory cf alcohol and tobacco use. Dysphagia beg:b1S with solid food and progresses to diffculty with liquids.

3. Foul breath and regurgitated food on the pillow in the morning

4. History of scleroderma with reflux symmptoms

5. Chest pain that comes and goes. It is ve•y severe but is not associated with eating_

A. Gastroenterolo•4"

Card 12

1. Achalasia is associated with dysphagia for both solids and liquids at the same time. It is not progressive. There is no association with smoüg or drinking.

2. Esophageal cancer gives dysphagia frst for solid food, then for liquids Cancer is progressively worse_ Achalasia is hot_

3. Zenker's diverticulum is associated with foul smelling breath_ Do not use a nasogastric tube or endoscope because of the risk ofperforation

A. Gastroenterolo•4"

4. Scleroderma esophagitis leads to reflux disease because the esophagus is not cupable ofcontracting The answer to the ••most diagnosis[m] question is easy. Scleroderma + reflux = scleroderma esophagitis.

Answer: Give proton pump inhibitors Look for symptoms of CREST syndrome.

5. Spastic disorders of the esophagus present •vith pain not related to eating or exertion. To answer the question, it must include a negative EKG and stress test so you do not answer "Angina_" Esophageal manometry can be diagnosåc

A. Gastroenterolo•4"

Card 13

A man comes in for evaluation of weight loss, diarrhea that is foul-smelling, and easy bruising_ The calcium level is low and the Sudm black stain is positive.

l. He has arthralgia, fever: and cognitive defects_ There are ocular abnormalities such as nystagmus_ Adenopathy is present_ Biopsy of the duodenum shows PAS-positive organisms.

Q. Gastroenterology

2. A patient from the Caribbean has severe folate and vitamin B12 deficiency_ Biopsy shows abnormal Villi with lymphocytic infiltration. Antigliadin and anti-endomysial antibodies arenegative.

Card 13

A. Gastroenterolo•4"

L Whipple's disease is a cause ofmalabsorption in association with arthralgias, fever, and CNS abnormalities_ The key to answering the "most diagnosis" question is the presence of PAS-positive organisms. The best inmal therapy is a year of trim ethoprim/ sulfamethoxazole_

2. Tropical sprue is the ulswer when malabsorption is present in a patient with fat malabsorption association with severe fOIate and B12 malabsorption_ The question must give a history of a person from the Caribbean or India. On biopsy, the vüli are abnormal with inflatnmatory cells but they are not as flat as those seen in celiac disease_ Treatment is with tetracycline and folate.

Q. Gastroenterology

Card 14

A alcoholic man is admitted with severe epigastric abdominal pain, nausea, and vomiting. He is restless. with a fever.

l. The patient has an elevation of his amylase and lipase levels as wen as the urinary trypsinogen activation peptide. CT scan shows inflammation.

A. Gastroenterolo•4"

2. The CT scan shows necrosis of >30%_

3. CT scut shows necrosis, and biopsy grows gram-negative organisms.

A. Gastroenterolo•4"

Card 14

1. Acute pancreatitis occurs in alcoholics and those with gallstones obstructing the ducts Epigastric pain, nausea, and vomiting ue present. The key to the dagnosis is epigastric tenderness in an alcoholic. Trypsinogen-activating peptide is elevated. Treatment is pain control. IV fluids. and NVO untN pain is resolved

A. Gastroenterolo•4"

2. Necrotizing pancreatitis on a CT scan of the abdomen is much more as a prognostic factor thu Ranson's criteria_ Patients with severe necrosis should undergo a biopsy to see an ffection is present_ Necrotizing pancreatitis may benefit from antibiotics such as imipenem to prevent infection.

3. Infected necrotizing pancreatitis can be diagnosed only by biopsy or surgery These patients have nearly a 10% mortality without surgical debridement

Q. Gastroenterology

Card15

A woman comes in with severe itching, hepato-megaly_ and elevation of the alkaline phosphatase and GGTP_

mat is the "mast likely diagnosis " in each of these cases ?

l. History of inflammatory bowel disease. Over time, the bhbüi level begins to elevate.

A. Gastroenterolo•4"

2. Middle-aged woman with xantho-mas, fat-soluble vitamin malab-sorptionz h»erlipidemia, and skin hyperpigmentation

Card 15

Q. Gastroenterology

L Primary sclerosing cholangitis OCCUTS in those with inflammatory bowel disease_ The alkaline phosphatase is elevated and the bili•rubin only elevates much later the &sease. Definitive diagnosis is by ERCP. Treatment is with ursodeoxycholic acidö but this is oflhnited effect.

2. Primary biliary cirrhosis occurs in middle-aged women who present with itching and an elevated alkaline phosphatase. The most accurate test is the anti-mitochondrial antibody_ Treahnent is with ursodeoxycholic acid7 which has a linfted benefit.

A. Gastroenterolo•4"

Card 16

A young man is referred to you by psychiatry for evaluation of a tremor and choreifOrm movement disorder_ He was adnitted for paranoia and psychosis but was found to have an elevation of his transaminases and a Coombs-negative hemolytic**anemia**.

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

Q. Gastroenterology

3. What is the therapy?

Card 16

I. Wilson's disease is from the deposition ofcopper in the brain: liver: and kidneys In addition, there is Coombs-negative hemolytic metnia. T 00k for liver disease with a movement disorder and psychosis.

A. Gastroenterolo•4"

2. Wüson•s disease is diagnosed by finding Kayser-F1eischer rings on slit-lamp examination as well as a low level of ceruloplasmin, wlüch is due copper-carrying protein in die body. There is increased urinary copper excretion, although the single most accurate test is an increased copper level on biopsy_

3. Penicillamine is dre treatment that removes copper from the body.

Q. Gastroenterology

Card 17

A middle-aged man comes in for evaluation of joint pains and fatigue_ He has hepato-megaly on examination, and skin hyperpigmeutation.Diabetes has developed over the past few months. He has lost libido and has developed erectile dysfunction_ Liver function testing is elevated_ Echo shows restrictive cardiomyopathy_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

A. Gastroenterolo•4"

3. What is the therapy?

Card 17

1. Hemochromatosis is from iron deposition in multiple organs in the body especially the liver_ Cirrhosis will develop if untreated in 60% ofpatients, and bepatocellular carcinoma n 15–20%. Another die of cardiac involvement. Iron deposition also leads to diabetesö pseudogout. skin hyperpigmentation Oronze diabetes). and erectde dysfunction_ 'The latter is from iron deposition in the pituitary and loss of gonadotropins.

Q. Gastroenterology

2. The best initial test is iron studies with an elevated iron and ferritin level and low iron-binding capacity _ This is a high iron saturation_ This pronmpts the most accurate tests: which are the HFE gene mutation_ Liver biopsy with increased iron is the single most accurate test.

3. Phlebotomy is the most way to remove iron from the body.

Q. Gastroenterology

Card 18

A man comes to the ernergency departrnent with abdominal pain tenderness and féver_

examination.

Q. Gastroenterology

l. History of alcoholic cirrhosis and ascites_ Blood pressure and pulse are normal.

2. History of peptic ulcer disease. He has a blood pressure of 86/60 and pulse of 120, and åere is rebound tenderness on

A. Gastroenterolo•4"

Card 18

1. Spontaneous bacterial peritonitis (SBP) occurs with ascites_ The diagnosis is based on an ascitic quid cell count of>2SO neutropbils. Culture of the fluid should be injected frito blood culture bottles. Most commonly, SBP is from a single organism. such as E coli. The ascitic fluid protein level is low _ Treatment is with cefotaxime_ Ascitic fluid should be sent for Gran-I stain: culture, protein, albumin: CDH, amylase: and cell count.

Q. Gastroenterology

2. Secondary peritonitis occurs from perforation of an abdominal organ. It is associated with signs of severe sepsis such as hypotension and tachycardia. Peritoneal signs such as rebound and guarding are cornmon_ The ascitic fluid protein is elevated. This fot•m ofperitonitis must be teated with surgical repair in addition to antibiotics. Look for air under the diaphragm on an upright chest x-ray_

A. Gastroenterolo•4"

Card 19

A man comes in for evaluation of recurrent peptic ulcers_ The ulcers are multiple, >2 cm in size, and located in the distal portion of the duodenum. Treatment ofHelicobacter pylori has resulted in no benefit. He al-o has diarrhea.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Q. Gastroenterology

3. Iv%at is die therapy?

Card 19

1. Zollinger Ellison syndrome (ZES) is the most diagnosis when the question describes a patient with ulcers that are large, distal, multiple, and recurrent after treatment for H. pylori. Most ulcers ue cm in size. Diarrhea is from Ole inactivation of lipase from the high acid level_

A. Gastroenterolo•4"

2. The most accurate diagnostic test is an elevated gastrin level when offH2 blockers or proton pump inhibitors. Secreün should normally suppress gast:rin_ In ZES, secretin causes a rise in gastrin levels_

3. Local disease should be resected. Metastatic disease is treated with lifelong proton pump inhibitors.

Q. Gastroenterology

Card 20

An elderly man is brought to the etnergency department with symptoms of tachycar-dia, diaphoresis, palpitations: and lightheadedness that begin 15 to 30 minutes after eating. He had surgery in the past for nonresoüg ulcers. Another hour or two after eating the symptoms recur_

l. What is the most Ikely diagnosis?

A. Gastroenterolo•4"

2. What is the therapy?

Card 20

1. Dumping syndrome occurs in those with vagotomy and gastrectomy as a part of surgery for ulcers_ There are two phases with sinüar symptoms. Initialy, there is a rapid release of gastric contents ilto the duodenum, resulting an osmotic fraw offluids

into the intestine that results in hypotension, lightheadedness, tachycardia, palpitations, and sweating_ Later. there is a rapid release of insulin resulting in hypoglycemia: whichpfoduces many of the same synptoms.

2. Dumping syndrome is managed with multiple small meals devoid of sir»ple carbohydrates_ Durnping syndrome is also seen in those with morbid obesity that have undergone gastric bypass surgery_

A. Gastroenterolo•4"

Card 21

A patient with longstanding diabetes comes to the offce for evaluation of nausea, vomiting, anorexia with a sense of early satiety, and abdominal "bloating." Sometimes there is &urhea, and somethnes constipation.

L M•mat is the most diagnosis?

Q. Gastroenterology

2. What is the most accurate diagnostic test?

3. Iv%at is die therapy?

Card 21

A. Gastroenterolo•4"

1. Diabetic gastroparesis is a form of autonomic neuropathy occurring in patients with longstanding diabetes and its effect on the nerves of the stomach. There is bloating with early satiety. The major stimulant to gastric motility is stretch. Longstanüg diabetes results in a neuropathy that reduces the of the gastrointestinal tract to stretch_

2. Diagnosis is defritwely deterüed with a nuclear gastric emptying study.

3. Promotility agents such as metoclopramide and erythromycin relieve s»nptoms.

~~Q. General Medicine~~

Card I

What is the "most likely diagnosis ' r in each of the following circunnstances?

An elderly woman comes in for evaluation of urinary incontinence_

Q. General Medicine

l. There is irrepressible need to void. It often happens at night. She leaks üe before she is able to get to the bathroom.
2. The patient is obese_ Episodes of incontinence are brought on by laughing, sneezing, coughing: or lifting heavy objects

A. General Medicine

Card I

1. Urge incontinence presents with the sudden and irrepressible urge to urinate that results in the passing ofun-ine before the patient is able to mak-e it to the bathroom. There is often associated pain over the bladder. The most accurate test is urodynamic studies, in which a catheter with a pressure transducer is placed in the bladder with the bladder half full to measure pressure _ Treatment for urge incontinence is with agents that have anticholinergic activity and are, hopefully, more specific to the bladder, such as oxybutynin, tolterodine, darif-enacin, solifenacin, and, occasionally, tricyclic antidepressants.

ncontinence

2. Stress incontinence presents with leakage of urine associated with coughing, laughing, or sneezing: which increase intra-abdominal pressure. Treaunent for stress is with Kegel exercises or topical estrogen cream. Estrogen c.rean'l hicreases the growth of the distal third of the urethiæ

Q. General Medicine

Card 2

l. Patient with an elevated alkaline phos-phatase but with no itching and a normal anti-mitochondrial antibody test

Q. General Medicine

2. Bowed legs worsening slowly over time with an abnormal gait_ Back pain and an enlarged skull with headaches. The alkaline phosphatase and urinary hy-droxyproline level are elevated_

Q. General Medicine

3. A 75-year old woman has a pruritic, eczematous rash ofher nipple. It is progressive and now has crusting and a discharge that is sometin:yes bloody

A. General Medicine

Card 2

1. Paget's disease ofthe bone is often asymptomatic with just a marked elevation of alkaline phosphatase_ Abnormalities of the x-ray can be foumd when x-rays axe done for other reasons. Asymptomatic Paget's disease does not need therapy.

2. Paget's disease is the answer when there is bone pain, headache with physical enlargement ofthe head, and bowing of the tibia secondary to softness. Pain is the first symptom. When very severe, there is warmth palpated over the bone. Rarely the extra bone growth is so severe that high-output congestive heart develops_ The alkaline phosphatase is markedly

elevated with normal calcium and phosphate levels_ X-ray is the best initial test. The best initial therapy is bispbosphonates or calcitouin.

3. Paget's disease of the breast is a form of breast cancer in older women presenting with a pruritic, eczematous rash that sometimes develops a discharge. Biopsy is the diagnostic test. Treatment is with surgical resection.

Q. General Medicine

Card 3

A generally healthy 40-year old man comes in •with severe pain in the bottom of his fOot_ The pain is extremely severe as he gets out of bed in the morning, and it hnproves with ffe first few steps. Stretching improves the pain. There is muked ter+-ness at the midpoint of the heel_

l. What is the most Ikely diagnosis?

A. General Medicine

2. What is the treatment?

Card 3

I. Plantar fasciitis is an idiopathic disorder of severe pain in the bottom of the fOot_ The pain is extremely severe in the morning, especially with the first few steps. As the fascia is loosened with wakng, die pain improves. There is severe point tenderness at the heel where the fascia inserts.

Q. General Medicine

2. Plantar fascitis improves gradually over time. Stretching die foot with a towel or Wiff a wan stretch i:nprove tie condition_ Occasionally. steroid hljections or surgical release are necessary.

A. General Medicine

Card 4

A young mother comes to see you because of pain in her hand and wrist_ The pain is on the t_hmnb (ra&al) side ofthe •wrist and occurs when she is gripping objects and squeezing things. The Fin-kelstein test is abnormal.

L M•mat is the most diagnosis?

Q. General Medicine

2. What is the Fhlkelstein test?

3. Iv%at is die therapy?

Card 4

A. General Medicine

1. De Quervain's tenosynovitis is pain in the tendons of the 'Mist_ The etiology is umknown_ De Quervain[7]s is the answer when the question describes pain, swelling, and tenderness on the radial side of the wrist.

2. The Finkelstein test is pain in the •wrist when the thumb is placed in the closedfist and the hand is toward the little finger (ulnar deviation).

Q. General Medicine

3. There is no proven therapy_ N SAIDs and splinting are the mainstays of therapy_

Q.

Hematolwv

Card I

What is the "most likely diagnosis ' r when the following additional feat-mes are described?

A 54-year old woman comes to the clinic for a follow-up visit because of fatigue_ CBC reveals a decreased hematocrit of 32% and an MCV that is low at 68fL_

Q.

1. An elevated red-cell distribution of width (RDW) and a high platelet count

2. A low serum iron level, low iron binding capacity, low reticulo-cyte count. History of rheumatoid arthritis.

3. A profoundly low MCV with very few symptoms and an elevated red-cell count. The iron studies are normal_

Hem

A.

Card I

L The most cormnon cause of microcvtic anemia that comes to attention is iron deficiency anernia_ Iron deficiency is associated with an elevated red-cell distribution of width because the cells become progressively smaller as the iron deficiency worsens over thne_ fron deficiency is also associated with thrombocytosis_ This is benign and requires no additional treatrnent beyond correcting the iron deficiency The best initial test for iron deficiency is a low iron, low ferritin_ and elevated total iron binding capacity. The most straigh&onvard questions give a history of blood loss.

2. The anemia of chronic disease is characterized by a low serum iron level, low iron binding capacity: and normal ferritin level. Any infectious or üflammatory condtion can lead to the anenia of chronic disease. It is extremely common in rheumatoid arthritis.

iron.

Hem

A.

3. Thalassemia is associated with very few symptoms because the red-cell count is elevated. This can maintain åe total hernatocrit close to normal Thalassemia gives normal iron studies. 'The most accurate test is hemoglobin electrophoresis_ DO NOT treat patients with thalassemia with supplemental

Hem

A.

Card 2

An alcoholic 48-year-old man comes to the etnergency department because of fatigue_ His only medication is isoniazid_ Stool is negative for occult blood The bema-tocrit is 32% and the iron level is elevated.

L M•mat is the most diagnosis?

Q. Hematology

2. What is the most accurate diagnostic test?

3. Iv%at is die best iniüal thetepy?

Card 2

Hem

A.

1. Sideroblastic anemia is most connnonly associated with alcoholism and is the only anetnia associated With a high circulating iron level. The MCV is most often decreased, but it can be elevated or normal. Although lead poisoning is cornnwnly associated with ideroblas-dc anemia. there are many more people who drink alcohol than the nun-ibex exposed to lead_ Sideroblastic anemia is also associated with isoniazid use and myelodysplasia.

2. The most accurate test is a Prussian blue stain_ Iron budt up in ringed sideroblasts is not found on arouthle smear_ You must do the Prussian blue stain to find the iron buüt up in rnitochondTia_

Q. Hematology

3. There is no specific therapy_ Rernove the toxic exposure or treat the myelodysplasia_

Card 3

A patient comes to the offce because offitigue and slowly progressive dyspnea on exertion_ The hematocrit is low at 25% and the MCV is markedly elevated at 130fL. The peripheral smear shows hypersegmented neutro-pbils with average of lobes The LDH and indirect bilirubin are also elevated. The reticulocyte count is low.

Hem

A.

l. Elderly patient with glossitis and peripheral neuropathy. Both the metbylmalouic acid and bomocys-teine levels are elevated.

2. A malnourished alcoholic with an elevated homocysteine level

Card 3

Q. Hematology

L Vitamin B12 deficiency and folic acid deficiency are identical in their hetnatologic abnormalities_ Both give a macrocytic anemia with hypersegmeuted neutropbils. Both lead to elevated levels of LDH and indirect bilirubin with low reticulocyte counts_ This is to-med 'ineffective erythropoiesis" because the cens are made in the marrow but they are destroyed before they can be released to the peripheral blood; hence: the marrow in both diseases is hypercellular. B12 deficiency gives neurologic abnormalities and folic acid deficiency does not. The most common neurologic abnormality B 12 d&iency is peripheral neuropathy_

Hem

A.

2. Folic acid deficiency does not give neurologic abnorma&s. In addtion, folic acid deficiency elevates only the level of homocysteine_ whereas B12 deficiency elevates both the level of homocysteine and the level of methylmalonic acid_

Card 4

A patient with sickle-cell disease is admitted because offitigue developiug over several days The hematocrit has dropped precipitously. The MCV is normal and the reticu-locyte count is low. The white-cell count and platelet coumt are normal.

Q. Hematology

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

3. Iv%at is die best iniüal thetepy?

Hem

A.

Card 4

I. Parvovirus BIY is the most Wcely cause of a pure red-cell aplasia in a person with a hemoglobinopathy_ The reticulocyte count should be elevated a person with anemia This is particularly t•ue the case of sickle-cell disease in which die reticulocyte count is usually 10—20% Parvovirus invades the bone marrow and freezes the growth ofprecursor cells in the marrow_ The reticulocyte count is abnormally low _ Because a patient with sickle cell disease has such a high percentage ofreticulocytes: the hematocrit can &op very precipitously when infection with parvovh-us occurs.

2. The most accurate test for parvovirus BIY is a PCR for DNA_ If this is not one of the answer choices, then the most accurate test is IgM against the virus. Although a bone marrow biopsy with an ncreasednumber of giant pronormoblasts does develop. this is obviously more invasive and not as spec.ific as the PCR for parvovirus DNA.

Q. Hematology

3. Treatment is with intravenous immunoglobulin s.

Card S

A patient comes to the emergency department •with the sudden onset of fatigue and shortness of breath_ The hematocrit is 20%, and the MCV is slightly elevated. The reticulocyte count, LDH, and indirect bilirubin level are all elevated and the haptoglobin is low_

l. History of SLE, CLL, lymphoma, Of medcation use such as penicillin

Hem

A.

2. Recurrent episodes with a large spleen_ Often with a family history _ An elevated mean corpuscular hemoglobin concentration (MCHC).

3. Sudden onset ofhemolysis in a male patient with an acute infectiom Occasionaly happens after sulfa drug use.

Card 5

l. All forms of hemolysis lead to elevated levels ofLDH, indirect biliru-bin, and reticulocytes. Autoimmune warm antibodies are found in association with SLE, lymphoma, and CLL. In addition, medications such as penicillin, suYa

medications, and quinidine can provoke autoimmune hemolysis_ The most accurate test is a Coombs test_ The smear wrdl be normal because the hemolysis is occurring in the spleen_

2. Hereditary spherocytosis presents as recurrent episodes of he molysis with splenomegaly The MCHC is elevated because the red-cell membrane is too tight to contain the anwunt of hemoglobin present_ The most accurate test is osmotic fragility.

3. Glucose-6-phosphate dehydrogenase (G6PD) deficiency presents most often in males because it is X-Iinked_ Although pt±naquine, dap-sone, and fava beans have been classically associated with tffs &sorder , the most common cause of acute hemolysis is an infection. The best hlitial tests are for Heinz bodies and bite cells_

Hem

A.

Card 6

A man comes to the offce with dark urine in the morning_ His urinalysis shows hemoglobin, but no red cells are visible . There axe no white cells or protein. The CBC shows anemia md mild thrombo-cytopenia. The LDH, indirect bilirubin, and reticulocyte count are elevated_ He has a history of a large-vessel thrombosis. The leukocyte alkaline phosphatase level is low_

1. What is the most Nzely diagnosis?

2. What is die most accurate diagnostic test?

Q. Hematology

3. What is the most corm-non cause of death?

Card 6

1. Paroxysmal nocturnal hemoglobinuria (PNH) presents with recmrent episodes of dark urine in the morning. The bemolysis occurs overnight, with the hemoglobin visü>le die first morning urine. Pancytopenia is often present. Signs of hemolysis such as an elevated LDH7 and reticulocyte count are present_ The reticulocyte count may be low_ A low leukocyte alkaline phosphatase score is often present.

Hem

A.

2. The most accurate diagnostic test is a CDS5f59 antigen test that is low_ CDS 5/59 is a marker for the "decay accelerating factor" (DAF)_ DAF removes complement from cells before the cells are destroyed Older, less accurate tests are the sugar/water and Ham's tests, which look for activation of complement.

3. The most common cause of death in PNH is large-vessel thrombosis_ Less cornmon cot»plications are acute leukemia, aplastic anemia, and myelodysplasia. This is because PNH is a stem cell disorder.

Q. Hematology

Card 7

An African American man comes to the etnergency department with pain in his back, chest, and thighs. He has a history of sickle-cell disease. He is febrüe to 102F. Chest x-ray md uinalysis are normal. fluid- and analgesics are started. His hematoclit is 28%_

l. What is the most ugent step at tHs time?

2. What is the best initial test to confirm a parvcrh-us B 19 infection?

3. What is the most accurate diagnostic test for parvomhus?

Hem

A.

4. What is die best ilitial test to cor&m sickle-cel disease?

Card 7

L The most urgent step in sickle-cell disease when a fever is present is to start antibiotics such as ceftriaxone, levofloxacin, or gatifloxa-cin. Do not wait for the results of culttues. Patients with sickle-cell disease can die rapidly of overwhelming sepsis because they are functionally aspl**enic**.

Q. Hematology

2. Parvovirus BIY results in an aplastic crisis, particularly in those with a history of hemoglObhopathy. The best initial test is the reticulocyte count_ Patients with sickle-cell disease usually have a high reticulocyte count. parvovirus gives a low reticulocyte coumt_

3. The most accurate test for parvovirus is a PCR for the DNA of the virus _

4. The best test for sickle-cen &sease is a peripheral smear. The most accuate test is a hemoglobin electrophoresis. Patients with sickle cell disease often present with Acute Chest Syndrome_

Hem

A.

Card 8

An African American man is taking a course in skydi*lg_ He is on his fist tine in the plane at high altitude, about to make lis jump, when he develops severe chest, back, and thigh pain. When die plane retuns to the ground for an emergency landing7 he feels well. His CBC, including the pea-ipheral smear. is non-nal_ His only medical history is of occasional dark urine_

l. What is the most Ikely diagnosis?

Q. Hematology

2. What is the most accurate diagnostic test?

Card 8

Hem

A.

1. Sickle-cell trait or heterozygous (AS) sickle-cell disease is present in 8% of African Americans. Acute painful crises in sickle-cell trait is extremely rue md occurs only under conditions of the most severe hypoxia or high altitude, such as would occurduning a parachute The only significant manifestations of AS disease are renal concentrating defects (isosthenuria) and occasional episodes of gross hematuria_ There is no specific therapy.

2. The most accurate test for sickle-cell trait is a hemoglobin electrophoresis. There is no specific thefapy_

Q. Hematology

Card 9

A man from N•'liami has recently moved to Chicago for his residency He has an episode of pneumonia that is 'With a dry cough bilateral interstitial infiltrates that resolve with azitbromycin. WNe shov&g snow he suddenly develops pain and discoloration of his fingers, nose, and ears_ His hematocrit is 28%, and the bilirubin, LDH, and reticulocyte count are elevated _

1. What is the most Nzely diagnosis?

Hem

A.

2. What is die most accurate diagnostic test?

3. What is the therepy?

Card 9

I. Cold agglutinin disease or IgM-induced antibodies is the most diagnosis when there is hemolysis in association with pain and discoloration of acral portions of the body such as die fingers, nose, and ears on exposure to the cold. In addtion, although most cases of cold agglutinin disease are asymptomatic. look for a recent history of mycoplasma pneumonia such as is suggested in this case. Epstein- Barr virus is also another clue.

Q. Hematology

2. The most accurate test for cold agglutinin disease is a direct Coombs test that is positive for complement only_ All the usual findings of hemolysis are present: such as an elevated_LDH, indirect bdirubinz and reticulocyte count: but they are not specåc for cold agglutinin &sease.

3. No specific therapy is usually necessary_ Steroids are not helpful. This is the most comnyon wrong answer. In severe cases, alkylating agents such as cyclopbosphamide can be used. Cyclosporine is also helpful.

4. the

Hem

A.

Card 10

A man with diarrhea comes in because ofweakness and anemia_ In addition: he has an elevated reticulocyte count, LDH, and indirect bilirubin level. The haptoglobin is absent. The platelet count is 38,000 but he is not bleeding. The creatinine is

l. What is the most Ikely diagnosis?

2. What is the most cause ofhis diarrhea?

Q. Hematology

3. What is the best initial test?

What is most accurate diagnostic test?

Card 10

1. Hemolytic uremic syndrome (HUS) is the triad of hemolytic anemia, renal insufficiency and thrombocytopenia. If neurologic abnormalities and fever are also present, this is hrombotic thrombocytope-nic purpura (TTP).

2. HUS is often associated with E. coh 0157:H7.

4. the

Hem

A.

3. The best initial test for HES is a peripheral smear showrhmg fragrnented red cells such as schistocytes or helmet cells_ This is also referred to as microangiopathic hemolytic anemia_

4. There is no specific test for either HUS or TTP_ They are &agnosed based on either the triad or pentad of laboratory abnormahties_ Most of the time they will resolve spontaneously. Do not give platelets or antibiotics_ These are the most common wrong answers.

Q. Hematology

Card 11

A man comes to the offce with s»nptoms of dizziness, headache, fatigue: and blurred vision_ He is very itchy after a warm shower. He gets nosebleeds. He has splenomegaly. His hemato-crit is 58%. The MCV is low at 68fL. The white-cel count and platelet count are normal.

l. What is the most Ikely diagnosis?

2. What is the best initial diagnostic test?

4. the

Hem

A.

3. What is the most accurate diagnostic test ?

What is most common cause cf death?

Hem

A.

11

Card

I. Polycvthemia vera is a neoplasm of the bone marrow with a markedly elevated hematocrit in the absence of hypoxia or an elevated level cf erythropoieth. Polycythenia vera presents with signs of hyper-viscosity such as headache, blurry vision, and fatigue_ Epistaxis is comrnon_ Pruritus after a warm shower is connnon because of histamine release from basophils_ The cells in polycyt_hernia vera are small

2. The best initial test is an arterial blood gas to exclude hypoxia as a cause ofsecondary polycythemia_ Ifthe hematocrit is markedly elevated above 60% and the white count and platelet count are elevated, no additional tests besides a bone marrow biopsy are necessary because nothing else besides polycythemia vera give an elevation of an cell hes.

Hem

A.

3. The most accurate test is a nuclear red-cell mass test_

4. The most comrnon cause of death is large-vessel thrombosis from the hypo-viscosity of the elevated red-cen mass_

Q. Hematology

Card 12

A 52-year-old man comes to the offce with painful burning of his hands. His hands are The only laboratory abnormality is a platelet count of 1,500,000

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

4. the

Hem

A.

3. Iv%at is die most common cause of death?

What is best initial therapy?

Card 12

1. Essential thrombocytosis (ET) is platelet cancer _ This is amyelopro liferative disorder of the bone marrow in which the platelets are elevated to levels above million. The wlite-cell count can al-o be up. ET canpresent with

etythromelalgia, which is painful. red biffiling of the hands; however_ it may present only with a high platelet count

2. There is no specific diagnostic test. The bone murow shows nothing except ürreased numbers of megakaryocytes. Red cells are normal_ There is a high frequency of mutation to JAK2.

3. Essential hrombocytosis cu result death from either bleeding or thrombosis. Thrombosis is more connon.

4. The best initial therapy is hydroxyurea_

4. the

Q. Hematology

Card 13

An elderly man is being evaluatedfor progressive fatigue. CBC shows a pancy-topenia_ The MCV is normal_

Q. Hematology

l. Splenomegalyz nucleated red cellS7 teardrop cells 7 and leukoerythroblastosis

2. Splenomegaly, a nonaspirable dry tap, and a positive tartrate-resistant acid phospbatase

3. Pancytopenia alone, with a vacant bone marrow

Hem

A.

Card 13

1. Myelofibrosis is diagnosed by finding the combination of nucleated red cells, teardrop-shaped cells: and an immature white cell that forms on smear such as promyelocytes or myeloblasts. All together, dis is caned a "leukoerytbroblastic" presentation_ The liver and spleen are big because progressive marrow fibrosis leads to extramedullary a-ythropoiesis_

2. Hairy cell leukemia presents in middle-aged patients with pancy-topenia, massive splenomegaly, and a "dry" tap. The most accurate test is the TRAP, or tartrate-resistant acid phosphatase_

Hem

A.

3. Aplastic anemia is simply pancytopeuia of unclear etiolow. The marrow is empty and can be replaced with fat. There is no fibrosis the marrow_ Splenomegaly is not present because extramedullary he-matopoiesis is not occurring_ The marrow has just simply died Remember parvm+us B 19 infection in patients with previous baseline anetnia: such as sickle-cell or thalassemia_ cu cause transient aplastic anemia.

Q. Hematology

Card 14

A 60-yearq)ld man comes in with fatigue, low-grade fever: and abdominal filllness_ Massive splenomegaly is found_ His white-cell count is markedly elevated at 175,000. They are normal ud mature-appearing on smear. The leukocyte alkaline phosphatase (LAP) score is low.

l. What is the most Ikely diagnosis?

What is the most

Q. Hematology

2. What is the most accurate diagnostic test?

3. corm-non cause of death?

What is the most

Hem

A.

Card 14

I. Chronic myelogenous leukemia (CML) presents as fatigue and left upper quadrant abdominal pain from a really big spleen. The white-cell count is markedly elevated, but they look normal. The IAP score is low. A low LAP score means that the cells may be in number but they are low in function_

Q. Hematology

2. The most accurate test for CNIL is the Philadelphia chromosome. Tlis cu also be caned the bcr/abl mutation.

3. Without treatnænt with imatinib 20% of CAT patients transform into acute myelogenous leukemia each year.

Card15

What is the most

Hem

A.

A 72-yearq)ld man comes in for progressive fatigue. He has splenomegaly on examination_ His hematocrit is 30% with an MCV of 107fL. There ue oval-shaped cells. The re-ticulocyte count is reduced. The white cells show bilobed nuclei. There is a :rnid reduction in platelet count B 12 and folate levels are nonnal_

l. What is the most Ikely diagnosis?

2. accurate diagnostic test?

Q. Hematology

Card 15

1. Myelodysplastic syndromes are a collection ofpre leukemic syn&omes with macrocytic anemia_ They are seen ahnost exclusively elderly patients. They often have bilobed neutrophils known as Pel-ger- Huet cells. The platelet count and reticulocyte count are often reduced_ Although a small number ofpatients progress to acute myelo-genous leukernia. most patients die with bleeding or infection before that occurs.

What is the most

Hem

A.

2. The most accurate test is a bone marrow biopsy. The marrow is hypercellular despite the peripheral low cell courts The Prussian blue stain shows ringed sideroblasts_

Q. Hematology

Card 16

A 34-year-old man comes in with severe bleeding from I-is skin, nose: and recturn_ He has a fever CBC shows pancytopenia. There axe blasts sistble on the peripheral smear. The PT and PTT are elevated. Some of the neu-trophils have an eosinophil-ic inclusion body visible_

What is the most

Hem

A.

l. What is the most Ikely diagnosis?

2. accurate diagnostic test?

Q. Hematology

Card 16

1. Acute promyelocytic leukemia: or M3 leukernia, presents with the sarne pancytopenia as any other acute leukemia with blasts present. In addition, promyclocytic is always the most commonly asked question on leukemia because it is the form of acute leukemia that has the most distinct presentation_ The association with disseminated intravascular coagulation (DIC) is characteristic_ This is because the promyelocytes have granules that activate the clotting cascade_ The eosinophilic inclusion body is an Auer rod, which is characteristic of promyelocytic leukemia.

Hem

A.

2. The most accurate test for acute leukemia is a bone marrow biopsy_ This is the most accurate way to assess the nunnber of blasts. In addition, åe most tests to determine prognosis are cytogenetic studies. These axe best obtüed on actively rephc.ating cells found in the marrow.

Card 17

A 60 year-old man is found to have an elevated total protein on routine blood testing in the offce_ Electrophoresis reveals a monoclonal IgG spike. Calcium, CBC, urinalysis, and skeletal bone survey are normal.

Q. Hematology

L M•mat is the most diagnosis?

2. What is the single most accurate diagnostic test?

3. Iv%at is die best iniüal thetepy?

Card 17

Hem

A.

1. Monoclonal gammopathy of unknown significance (MGUS) is most often found on routine testing of blood for protein levels an elderly patient The patient is asymptomatic. A-Il oåer tests be described as normal. There wil be no Bence-Jones protein, no bone lesions, and a normal uric acid level.

2. The most accurate test is a bone marrow biopsy. MGUS has plasma cens on bone marrow biopsy.

3. There is no therapy for MGUS_ Only 1% of patients per year will progress to myeloma: and no therapy is known to prevent

Q. Hematology

Card 18

A 70-year-old man comes to the hospital with blurry vision, shortness of breath, confusion, vertigo, and nausea_ He is anemic and the white-cel count is nonnal. The serum viscosity level is hrreased to 1.5 tines diat of water. He has engorged, sausage-shaped blood vessels in his eyes.

l. What is the most Ikely diagnosis?
What is the

Hem

A.

2. most accurate diagnostic test?

Card 18

1. Waldenström's macroglobulinemia is caused by hyperviscosity from the overproduction ofIgM from lymphocytes and plasma cells. lg.N•i is larger åan IgG, and therefore presents with a hypervis-cosity syndrome diat obstructs blood

vessels in the brain. lungs, and eye and results in shortness ofbreath and blurry vision. Vertigo also occurs_ GI bleeding may occur from engorged blood vessels_ This is the same sort of presentation as a leukostasis reaction in acute leukemia; however, the white-cell count in Waldenström's is generally normal.

2. The most accurate diagnostic tests are a serum protein electrophoresis with an elevated IgM spike and a bone marrow biopsy showing increased plasma cens- Bone x-rays ue normal-

What is the

Hem

A.

Card 19

A patient is aånitted for a pulmonary embolus_ Two days after starting intravenous heparin, the platelet countstarts to decrease.

L M•mat is the most diagnosis?

Q. Hematology

2. most accurate diagnostic test?

Card 19

1. Heparin-induced thrombocytopenia (HIT) occurs several days after the start of heparin. The most corm-non presentation is an asymptomatic decrease in the platelet count. Occasional episodes cf tluombosis occur. Venous

What is the

A.

thromboses are three times more common than arterial thromboses. In general, a 50% decrease in the number of platelets after starting heparin is considered criteria.

2. The most accurate test for HIT is for antibodies to platelet factor 4_ These are heparin-induced antiplatelet antibodies .Serotonin release is very sensitive. Treatment is to stop all heparin products immediately.

Q. Hematology

Card 20

A patient was admitted to psychiatry for an acute episode ofhallucinations, psychosis, and hysteria_ She also has abdominal pain and dark urine. She recently started on phenobubital for seizures. The attack accompanied the onset of menses. Despite the severity of her abdominal pain. the examination is benign_

l. What is the most Ikely diagnosis?

What is the

Q. Hematology

2. What is the best initial diagnostic step?

3. best initial therapy?

What is the

Hem

A.

Card 20

Hem

A.

1. Acute intermittent porphyria (AIP) presents with severe abdominal pain: neuropsychiatric disturbance: and dark urine. Episodes often happen around the time of menstruation an&or after eye start of medications such as barbiturates.

A. **Hem**

2. AIP is confirmed with urinary levels of aminolevulinic acid and por-phobilinogen_

3. AIP is treated acutely with dextrose and intravenous heme infusion_

Q. Hematology

Card 21

A woman comes in with increased bleeding after a dental extraction_ She has noticed increased bleeding such as epistaxis and pete-chiae for many years. The platelet count is normal. The aPTT is modestly elevated.

L M•mat is the most diagnosis?

Q. Hematology

2. What is the best initial diagnostic test?

3. Iv%at is die most accurate diagnostic test?

Hem

A.

Card 21

L Von Willebrand's disease presents with increased mucosal type of bleeding: particularly after minor traunnaz surgery or aspfrin use. The aPTT can be elevated because factor VIN antigen (von Wille-brand's factor, HVF) and factor VIII coagulant (hemophilia A fac-tor) travel bound to each other_ 'This cannot be hemophffa because the type of bleeding in hemopmia would be deep bleeding into a joint or into a muscle, such as a hanatoma_ In addition, hemophilia does not express itsef in women.

A.

2. The best initial test ofplatelet function is a bleeding time_ Do mot do a bleeding tirne ft_he platelet count is low _ Ifthe platelet count is low, the bleeding thne wm always be abnormal.

3. The most accurate test ofvon Wülebrand[7]s disease is a combination of the VWF level and ristocetin testing. Ristocetin testing determines the fimction of ile the level is normal.

Q. Hematology

Card 22

A patient comes in with bleeding into his joints and muscles after ninor traurna. The platelet count is normal_

l. Male child with an elevated aPTT and a normal PT

Q. Hematology

2. A patient who has recently had intravenous antibiotics. There is elevation of both the PT and aPTT.

3. An alcoholic patient with a low albumin who also has varices_ Both the PT and aPTT are elevated_

A.

Card 22

1. Hemophilia is the most Wcely diagnosis with hemarthrosis in a male child after minor trauma_ Only the aPTT will be elevated. The best initial test is a mixing study, and the most accurate test is a specü level offactor VIII or IX. The mixing study is the first test to perform to determine the presence of a clotting factor deficiency. If the aPTT is elevated from a clotting factor deficiency: the lab value •,.vül ret-um to normal when mixed 50-_50 with normal plasma If there is a clotting factor inhbitor it wm not correct.

after

Hem

A.

2. Vitamin K deficiency is suggested by the recent antibiotics which deplete the levels ofm.-itarnin K in the body Both the PT and aPTT will be elevated. The diagnosis is generally confirmed by looking for in improvement after administering supplementary vitamin K.

3. Liver disease presents in the same manner clinically as vitamül K deficiency, but there wil be no improvement administering supplementary Gtamin K

Q. Hematology

Card 23

A patient comes in with an elevated aPTT found on routine screening prior to a minor operaEve procedure_ The PT is normal_

l. There is no bleeding at any time. The patient is completely asymptomatic.

Q. Hematology

2. There has been minor bleeding occasionally üe past, but only with trauma or surgical procedures.

3. There has been clotting, such as a DVT, in the past The VDRL is positive_

Hem

A.

Card 23

1. Factor XII deficiency produces an elevation in the aPTT with no evidence of bleeding even under conditions of addtional trauma.

A.

2. Factor XI deficiency results in a prolonged aPTT and gives abnormal bleeding under conditions of trauma or surgery: such as a extraction. Factor XI deficiency is more common in Ashkenazi J ews.

3. Lupus anticoagulant is a type of antiphospholipid antibody that results in increased clotting but gives a prolonged aPTT as a laboratory uffact. It is associated with a false-positive VDRL. On müg studies, the aPTT wil not correct on a 50•.50 mix with normal plasma because it is a circulating antibody_ The antibody •wrül be present in the Deficiencies correct to normal when rnixe& Antibodies do not_

Q. Hematology

Card 24

A patient is aånitted with a pulmonary embolus. He is not obese or elderly_ There is no malignancy or increased risk of clotting that can be identåed.

L M•mat is the most common cause of thrombophilia ?

Q. Hematology

2. There is skin necrosis with the use of warfarhl_

3. The aPTT does not rise after the use of heparin.

Hem

A.

Card 24

1. Factor V Leiden mutation is the most common cause of throm-bophilia. This is a genetic defect that results in resistance of factor V to inactivation by protein C.

2. Protein C deficiency is associated with skin necrosis with the use ofwarfarin. Protein C is a natural vitami'l Kdependent anticoagulant with a very short hay-Ye- starting there is a Yansient hy-percoagulable state that is produced for a short th•ne before the other clotting factors are inhlbited_

Q. Hematology

3. Antithrombin Ill deficiency is a cause of tbrombophilia that results in resistance to heparin. Heparin works through the potentiation of the effect of antithrombin_ If there is an abnormally low level of antithrombin. then heparin wrdl not work_ There wd] be no rise on aPTT after a bolus of heparin.

Card 25

Please diagnose each of the transfusion reactions descrtbe&

Hem

A.

l. MM febrile reaction with the first unit of blood_ With the second unit there is shortness of breath and pulmonary infiltrates that resolve in 24 hours.

2. Innnediate anaphylaxis after a transfusion

3. Mild urticarial reaction after transfusion. No evidence of hemolysis.

4. A single-degree-centigrade elevation in temperature with no evidence of hemolysis

Q. Hematology

Card 25

1. Leukoagglutination reactions from donor antibodies attacking and agglutinating recWient white cells: resulting in shortness of breath. This is also l,mown as transfusion-associated lung injury (TRAM). No treatment is necessary.

2. IgA deficiency leads to anaphylaxis and occurs from IgA in the donor blood_ This occurs in IgA-deficient recipients. Use blood from IgA-deficient donors in the future.

Hem

A.

3. Urticarial reactions occur as an allergic reaction to donor plasma proteins_ Urticarial reactions can be prevented by transfusing washed red cells.

4. Febrile non-hemolytic reactions occur from areaction against donor white cells Prevent this by filtering the blood_

Q.

Immunolcwv

Card I

What is the 0 most Ilk,ely diagnoszs ' ' in each of these cases?

A young patient comes in with multiple sinopulmonary infections He has had sinusitis. bronchitis. pneurnonia. and otitis media

l. The patient is an adult with normal lymph nodes. B -cen numbers are normal. Immu-noglobulin produced is markedly low.

A.

2. A male child has infections in the first year of life. Lymph nodes and are hypoplastic_ Immunoglobulin levels and B cells are absent.

3. T cells are absent. There are cardiac defects: facial abnormalities, and hypocalce-tnia with low parathyroid hormone level_ IgG levels ue nonnal.

Immunology

Card I

Q.

I. Common variable immunodeficiency (CVID) presents in adults with normal numbers of B cells but markedly low immunoglobu-lin levels. Treatment is with replacement of irnmumoglobulins.

2. X-Iinked agammaglobulinemia (Bruton's) presents in male children at an early age_ Not only is no immunoglobulin produced, but die B cells and normal lymphoid structures are missing. Treaunent is with immunoglobulin replacement.

3. DiGeorge's syndrome is an isolated T-cell deficiency from thymic hypoplasia. DiGeorge[7]s syndrome is associated with cardiac and facial anatomic defects. Hypocalcemia results from dre ümbiity to develop parathyroid glands. Bone marrow tran splantation is used in Severe cases_

Q. **Immunology**

Card 2

A young patient comes in with repeated episodes of otitis media and pneumonia_ In addition: there is eczema and atopic dermatitis.

Q. Infectious Diseases

I. Allergic disorders, asthma, and ur-ticaria also occm _ There was a severe: persistent diarrhea] illness from Giardia lamblia. A blood transfusion resulted in anaphylaxis.

2. A male child presenting at a very early age with infections also has a bleeding disorder _ The platelet count is low and platelets are small in size.

Immunology

A.
Card 2

l. IgA deficiency most conumonly comes to attention because of frequent sinopulmonary infections_ There are multiple allergic disorders with IgA deficiency such as asthma, urticaria, rhinitis, and atopic eczema. infe&n with Giudia lambha OCCUTS_ Blood transfusions can result in anaphylaxis if the cells are not washed because of an allergic reaction to IgA in the donor blood_ There is no specific therapy Transfusion should only be from IgA-Deficient donors or with washed red cells.

Q. Infectious Diseases

2. Wiskott-Aldrich syndrome is the combination of increased susceptibility to infection combined with eczema and thrombocytope-nia. Atopic dermatitis occurs with hlcreasedfrequency of offs media, pneumonia, and thrombocytopenia. Bleeding is common.

A.

Card I

What is the "most likely diagnosis ' r in each of these cases ?

A patient comes in with fever, headache, nausea. and vomiting_ He expeaiences a seizure.

l. Confusion is the main complaint.

Q. Infectious Diseases

2. Stiff neck (nuchal rigidity) and photophobia are present_

3. He has focal neurologic deficits and projectile vomiting.

A. Infectious Diseases

Card I

I. Encephalitis is characterized predorninantly by confusion and fever for a few days Although there is headache: nausea: vomiting, and seizues, these findings are not specåc for encephalitis. Encephalitis is best diagnosed with a head CT fonowed by a lumbar puncture. The most accurate diagnostic test for herpes encephalitis is a PCR of the CSF, not a brain biopsy.

three—stiff

A. Infectious Diseases

2. Meningitis presents with neck stiff ness (nucbal rigidity) and photophobia.

3. Brain abscess presents with focal neurologic findings addition to fever: headache: and vomiting_ ff the case presents all neck, confrsion, andfocalfindings—then you cannot answer tie "most diagnosis" question.

A. Infectious Diseases

Card 2

A patient comes to the emergency department •with fever , headache, neck stiffness, and photophobia_

l. Six hours of symptoms with 3,500 white cells that are predomhuantly neutrophils

2. Neutrophilic predominance md recent neuosugery

3. The CSF protein is markedly elevated, there are 175 lynmphocytes: and the adenosine deaminase level is elevated_

Q. Infectious Diseases

4. Petechiae and a rash are present on the wrists and ankles that move toward the body CSF lymphocyte count is mildly elevated

Card 2

I. Pneumococcus is the most common cause of bacterial meningitis _

The high CSF neutrophil count tells us to answer %acterial meningitis " You cannot tell the difference between pneunnococcus. haemophilus, gran-y negative meningitis: and staphylococcus for sure without culture of the cerebrospin al fluid (CSF).

A. Infectious Diseases

2. Staphylococcus is the most comrnon organism after recent neurosurgery_

3. Tuberculosis is suggested by a very high protein, high adenosine deaminase level, and hmg lesions.

4. Rocky Mountain spotted fever presents with a salmon-colored rash that is vasculitic in nature and moves toward the body. A tick bite is recalled 60% of cases. CSF shows a modest elevation in lymphocyte count.

Q. Infectious Diseases

Card 3

A patient comes in with fever, headache, photophobia: and neck stiff ness_ The cerebrospinal fluid (CSF) protein level and white-cell count are elevated.

l. An alcoholic, elderly patient who is HIV-positive and is on steroids for lynmphoma with 2,300 neutrophils in the CSF

2. Generally healthy patient with müd lymphocyte elevation

3. Adolescent with a petechial rash ud terminal complement deficiency. Neutrophi count is elevated.

A. Infectious Diseases

4. HIV-positive patient with synmptoms over several weeks_ CD4 count of20. N'ffd CSF lymphocyte elevation_

A. Infectious Diseases

Card 3

1. Listeria monocytogenes presents •with increased neutrophils in the CSF in patients who are immunocompromised, elderly, or neonates. Steroids, dcoholism, chemotherapy, and leukemia al preåspose.

2. Viral meningitis occurs in healthy patients and is self linited_ There is no past medical history and the lymphocyte count in CSF is mildl•r' elevated.

A. Infectious Diseases

3. Neisseria meningitis occurs more often in adolescents in conditions of crowding, such as dormitories, or in military recruits. A petechi-al rash is characteristic. Splenectomy and terminal complement (CS-C9) deficiency ze very stmng risk factors_ A vaccine against N_ meningitis exists.

4. Cryptococcus is the answer when the case describes HIV/AIDS with low CD4 counts (CSO). Cryptococcus gWes a modest l»nphocytic elevation. and may even be found with a normal lymphocyte count in the CSF

Q. Infectious Diseases

Card 4

A man comes in for evaluation of fever, cough, and sputum production_

l. Fever is nuinhnal_ The chest x-ray is normal_

2. There is discolored sputum with hemoptysis. Chest x-ray shows an infiltrate one lobe.

Q. Infectious Diseases

3. An alcoholic with poor dentition_ The sputunn is foul smelling: There is weight loss, withpersistent syrnptoms over several weeks.

4. Immigrant with weight loss and a cavitary lesion on chest x-ray

A. Infectious Diseases

Card 4

1. Bronchitis presents with fever: cough: sputunn production: and a normal chest x-ray_

2. Pneumococcal pneumonia is the most comnuon cause of conumunity acquired pneumonia_ There are discrete infiltrates seen in individual lobes of the lung_ Hemoptysis is a nonspecific finding Hetnoptysis wül not help you answer the "most likely dagnosis» question. Anything that makes you cough gives you hemoptysis.

3. Lung abscess is the answer when the symptoms are chronic over several weeks, the sputum smells bad: and there is an hicreased risk for aspiration such as ültoxication, seizures, or intubation. Poor teeth predisposes to higher volumes of :hfected material to aspirate.

A. Infectious Diseases

4. Tuberculosis is most chen immigrants. There is chrorüc cough, fever, weight loss, and night sweats with a cavitary lesion _

Q. Infectious Diseases

Card S

A patient comes to the emergency department •with fever and a cough for the last several days The chest x-ray is abnormal with büateral interstitial infrrates.

L HIV-positive patient with 110 CD4 cells on no medications_ The cough is dry and the LDH is elevated_

2. An 82-year-old man with COPD with diarrhea and altered mental status. Sodium is low.

Q. Infectious Diseases

3. Patient is a sheep farmer. Büateral hiters&ial il±ates ze present.

4. Generally healthy young person. Hemolysis is present_

A. Infectious Diseases

Card 5

L Pneumocystis pneumonia (PCP) is the answer when the patient is HIV-positive with <200 CD4 cells on no prophylactic medications. The LDH is elevated.

2. Legionella pneumonia is associated with gastrointestinal and central nervous system abnormalities in elderly patients with a history of lung disease. The sodium level is often especially low patients with Legionella pneunonia.

A. Infectious Diseases

3. Coxiella burnetii causes Q-fever Coxiella is transmittedfrom animals: particularly in those exposed to the placenta of the animal. Coxiclla is an airborne organism. You must find animal exposure the question in order to answer Coxiella as the most H•zely diagnosis.

4. Mycoplasma pneumonia is the answer when the question describes a generally healthy patient with mild symptoms and interstitial infiltrates_ Occasionally there is autoimmune hemolysis from rgM cold agglutinins

Q. Infectious Diseases

Card 6

A 32-year-old woman comes to the ernergency departrnent with lower abdominal pain and lower abdominal tenderness. Cervical motion tenderness is present.

A. Infectious Diseases

l. Her tetnperatme is 101F and the white-cell count is 16,000_ NL 4,500— 10500

2. Hef pregnancy test is positive_

Card 6

Q. Infectious Diseases

I. Pelvic inflammatory disease (PID) is the diagnosis when there is lower abdominal pain and tenderness with cervical motion tenderness as wen as fever md a leukocytosis. A pregnancy test should be done to exclude an ectopic pregnancy. Cervical culture and DNA probe for gonorrhea and chlamydia should be performed. The most accurate test is a leparoscopy_ In most cases: think about admission for parenteral antibiotics when febrile.

A. Infectious Diseases

2. Ectopic pregnancy presents with cervical motion tenderness and a positive pregnancy test_ A pelvic ultrasound should be performed_ If this is negativez a transvaginal ultrasound should be performed

Q. Infectious Diseases

Card 7

A man comes to the clinic with a genital ulcer and enlarged inguinal adenopathy_

l. The ulcer is firm and painless with heaped up; indurated borders.

2. The ulcer is soft and painful.

Q. Infectious Diseases

3. Larger nodes that are tender is the main finding

4. The ulcer started as vesicles that lost their roofs

A. Infectious Diseases

Card 7

1. Primary syphilis presents as a genital ulcer with adenopathy_ The ulcer is firm and painless_ The most accurate test is a darkfield exam of a scraping. and VDRL ue only 75% sensiüve in primary syplüis. Treatment is with a single intramuscular injection of penicillin.

2. Chancroid is soft and painful. Specialized cultue meda ue necessary to diagnose Haemophius ducreyL Treanzent is with a single dose of azithromycin.

A. Infectious Diseases

3. Lymphogranuloma venereum presents with matted, enlarged lymph nodes. The nodes may develop a &ain.ing sinus tract and are often tender Diagnosis is with complement fixation testing of a sample of blood or witll of the node_ Treat with doxycy-cline for three weeks.

4. Herpes simplex begins as vesicular lesions that may ulcerate. Ifthe diagnosis is not clear. viral culture confirms the diagnosis_

Q. Infectious Diseases

Card 8

A patient comes in with dysuria such as urinary frequency, urgency, and burning.

l. A urethral discharge is present.

2. There are 50 white cells the trine. Suprapubic tenderness is present.

Q. Infectious Diseases

3. white cens are present in the urine. The temperature is 102F and there is flank tenderness.

4. After treahnent for pyelonephritis for seven days. fever, nank tenderness, and pyuria persist_

A. Infectious Diseases

Card 8

1. Urethritis presents with dysuyia and a urethral discharge, although a discharge by itseff is suffcient to suggest the diagnosis_ A urethral swab for Gram stain shows gonorrhea. Urine for nucleic acid ampffcation testing is die standard of care.

Treatment is with a single dose of azithromycin and ceftriaxone_ Always treat for chlarnydia as well; since rate of confection is very high_

2. Cystitis is suggested by dysuriaa white cells in a urinalysis. and suprapubic pain. Three days of trim ethoprim/sulfamethoxazole or a quinolone is the treatment.

A. Infectious Diseases

3. Pyelonephritis is diagnosed with dysuria, fever, flank pain and tenderness, and white cells in the urine. Sonogram or CT of the kidneys wdl show: possible hy&onephrosis or abcess (see below)_

4. Perinephric abscess is diagnosed witll persistent symptoms of pyelo-nephritis despite treatment. Imaging of the kidney show a collection of infected material_ Biopsy is the most accurate diagnostic test.

Q. Infectious Diseases

Card 9

A patient comes in with pruritus of his genital area_

A. Infectious Diseases

l. There is also an itchy rash of the web spaces of his fingers, elbows, and axilla. Narrow burrows are Visible in the web space.

2. The itching is hited to hair-containing areas of the pubis and axilla. Live organisms are visible near the hair.

Q. Infectious Diseases

Card 9

1. Scabies presents with pruritic lesions of the genitals_ There are itchy areas in the hands: elbows: and •wrists in the web spaces. Narrow burrows may be '*lble where the Sarccptes scabiei has dug underneath the sEn.

A. Infectious Diseases

2. Pediculosis, or crabs: are much larger than scabies and are visible on the skin surface in hair-bearing areas such as the pubic region and die axma. Both scabies andpediculosis are best treated with topical permethrin.

Q. Infectious Diseases

Card 10

A patient comes in with a swollen, red, immobile joint.

A. Infectious Diseases

l. A single joint is involved, in an elderly patient with a history of arthritis_ There is an effusion present.

2. A young patient has multiple joints invohred- There are petechiae, rash, and tenosynovitis present. There is pain on moving the frlgers and toes_

Q. Infectious Diseases

Card 10

A. Infectious Diseases

1. Septic arthritis from staphylococcus or streptococcus presents with involvement of a single joint. Most often the patient has a history of underlying joint abnormality such as arthritis. The more deformed the joint is, the more &ely the patient is to have septic arthritis The most accurate test is aspiration of the joint for cell count and culture.

Q. Infectious Diseases

2. Disseminated gonorrhea presents with polyarthritis, tenosyuo-vitis, and petechiae. The most accurate method of establishing a diagnosis is to culture the joint as well as the urethra, cervix, pharynx, rectum, and blood

A. Infectious Diseases

Card 11

A patient comes to the hospital with fever and a murmur_

l. A 67-year-old woman withfourmonths offe« and fatigue She has a history ofmitral regurgitation.

2. A 27-year-old injection drug user. The murmur is heud best at the lower left sterna] border.

3. A man whose aortic valve was replaced three weeks ago

Q. Infectious Diseases

4. A patient who has recently been diagnosed with diverticulitis and colon Cancer

Cardl1

L Viridans group streptococci are the most corm-non organisms to cause subacute bacterial endocarditis They occur most often those with a history of mderlying long-term vahmlar disease.

2. Staphylococcus aureus is the most cornmon cause of endocarditis in the injection drug user _ This is oftenmethicillin

(oxacün)-resistant. Injection drug users often have involvement of the right side of the heart, such as the tricuspid valve.

3. Staphylococcus epidermidis and other coagulase-negative staphylococci are the most conmxon cause of endocarditis when a heart valve has recently been replaced. Tlis is presumably from seeding cfthe valve during surgery.

4. Streptococcus bovis is most often associated with endocarditis in those with evidence of colonic pathology such as cancer_

Q. Infectious Diseases

Card 12

An HIV-positive man with 25 CD4 cells comes to the clinic with blurry vision for the last few days He is on no HIV medications.

L M•mat is the most diagnosis?

2. What is the best initial test?

A. Infectious Diseases

3. Iv%at is die best iniüal thetepy?

A. Infectious Diseases

Card 12

I. Cytomegalovirus (CMV) retinitis occurs exclusively in patients with CD4 counts under 100_ CN'IV presents with blurry vision.

A. Infectious Diseases

2. Dilated ophthalmologic examination is the best initial method of diagnosing CN•fV retinitis. It is basically diagnosed on how it looks. CMV antibody testing die blood has no value. It is a clilical diagnosis based on &ect visuaization.

3. Ganciclovir, foscarnet, or valganciclovir is the standard of care in treatrnent_

Card I

What is the "most likely diagnosis ' ' when the following additional feat-mes are described?

A patient is adrnitted to the intensive care unit because ofa severe metabolic acidosis_ The serum bicarbonate is low at 14. The patient is disoriented and cannot offer an adequate history_ No records afe avanable.

What is the "most likely diagnosis ' ' when the following additional features are desc.nbed?

l. Fever, hypotension, tachycardia, and elevated white-cell count

2. Hyperglycemia and hyperkalemia

3. Oxalate crystals in the urine with a low serum calcium

4. Elevated creatinine

A.

5. Normal anion gap: elevated chloride level; and hyvokalemia

Card I

1. Fever, hypotension, leukocytosis, and tachycardia imply the presence of sepsis as a cause of metabolic acidosis. The fist step the evaluation cfany metabo[c acidosis is the evaluation of the anion gap. An anion gap (Na+ minus Cl. and HCO—) that is >12 is consistent with lactic acidosis, salicylateoverdose, methanol, uremia, diabetic ketoacidosis, and ethylene glycol ov erdose.

2. Diabetic ketoacidosis (DKA) gives hyperglycemia and hyperkalemia, although the total body level of potassium is depleted

3. Ethylene glycol overdose results in oxalate crystals in the urine_ The formation of calciurn oxalate crystals lowers the calcium level. Look for die term "envelope-shaped" crystals.

4. Renal failure causes metabolic acidosis because of the kidney's inability to excrete acid.

5. Normal anion gap hnplies either renal tubular acidosis (RTA) or diarrhea. In RTA7 the urine anion gap is positive_ With diarrhea, the urine anion gap is strongly negaWe_ The lower the urine anion gap nunnber, the greater the kidney's to excrete

Nephrology

A.

Card 2

A man is a&nitted to the hospital •with renal developing over a few days His creatinine has risen from 0.8 mg/dL to 2.5 mg/dL His BUN bas risen even more, going from 14 to 54. His serum bicarbonate is slightly low. The urine sodium is low and the urine osmolality is high_

l. Blood pressure is 92/56 and pulse is 124.

2. Serum albumin is 2.2 and the pro-thrombin time is elevated_ There is splenomegaly.

3. He has an ejection fraction of 24% with edema_ A diuretic was recently started.

Q. Nephrology

4. A bruit is present at the flank" and he has just started an ACE inhibitor.

Card 2

I. Prerenal azotemia from any cause leads to an elevation of the BLA and creatinine, with the BLA rising more than the creatiiüie in a ratio greater 1±1. The tachycardia and hypotension in the first case suggest hypovolemia or any other form of shock. FeNa < 1% also indicates a prerenal etiology_

2. Low oncotic pressure for any reason results prerenal azotemia because of decreased renal perfusion. In adåtion, liver disease such as cirrhosis can lead to "hepatorenal" syndrome7 which is renal falure entirely on the basis of liver failure.

A.

3. Congestive heart failure from any cause leads to prerenal azote-mia. It can become suddenly worse with the volume depletion from a diuretic. Prerenal azotemia leads to a low urine sodium and high urine osmolality.

4. Renal artery stenosis is associated with decreased renal perfusion. ACE inhibitors can precipitate acute renalfaiure. 'Think about fibromuscular dysplasia in a young woman_

Card 3

You are called to evaluate a patient because of worsening renal function over the last few days. The creatinine is 2.5 mgtdL and the BUN is 28 units. The urine sodium is 45 meg/L and the urine os-molality is 290 mosmfL. His serum bicarbonate is low.

Q. Nephrology

l. The patient has been on gentamicin for tie last eight days.

2. He was on piperacillin for a few days, but stopped yesterday. He has fever and rash, and there are eosinophils in his urine.

3. Chemotherapy for lymphoma was started two days ago_

4. There is an empty bottle of antifreeze at Hs bedside.

Nephrology

A.

Card 3

1. Aminoglycoside-induced renal insufficiency generally OCCUTS after 5—10 days of exposure to the medication As with all forms cfacute tubular necrosis, the BCN and creatinine rise about a 10:1 ratio. The urine sodium will be bigh (>40) and the urine osmolality will be low (<350) because of the inability of the damaged kidney tubules to concentrate urine_ Amphotericin and any other renal toxic medication T.vN result in the same numbers.

2. Allergic interstitial nephritis presents with fever, rash. and eosinophils the uåye_ 'The presence of eosinophNs in the urine is more frequently found than in blood

Nephrology

A.

3. Hyperuricemia from tumor lysis syndrome lead to acute renal fadure_

4. Antifreeze contains ethylene glycol, "'lich leads to acute renalfaiue from oxalic acid accumulation the kidney tubude Look for "envelope-shaped oxalate crystals" in the uline_ Formic acid accunnulates with methanol ingestin and causes blindness_

Q. Nephrology

Card 4

A man comes to the ernergency departnyent after sustaining a prolonged seizure. He has dark urine which is strongly positive on the dipstick for blood but in which no red cells are seen on microscopic exanination. His serum bicarbonate level is low.

Q. Nephrology

L M•mat is the most diagnosis?

2. What is the most specific diagnostic test?

Nephrology

A.

Card 4

l. Rhabdomyolysis presents after a crush injury or severe exertion of any kind with dark urine in the absence of visible red cells. This is indicative of urine myoglobin. Rhabdomyolysis leads to metabolic acidosis, byperkalemia, and eventuany renal _

Q. Nephrology

2. Urine myoglobin is the most specific diagnostic test for rhabdo-myolysis. The potassium level and EKG are probably the most urgent diagnostic steps because they determhme who is most Q:ly to die_ The CPK level wrfll be significantly elevated_ Administration of IV fluids and alkalinization of the urine are important_ An elevated CPK is not specific for indicating the cause of the renal faiure.

Nephrology

A.

Card S

You are evaluating apatient because ofconfiusion_ His sodium is low at 122 mEq/L He has no edenma: clear lumgs: and no jugulovenous distention. There is no otthostasis.

L The patient has lung cancer with metastases to the brain. Urine sodium is 70 (High) and urine osmolarity is 450 (High).

Q. Nephrology

2. The patient is bipolar. with frequent mil.ationall day that is less at night Urine sodium is 10 (Low) and urine osmolarity (Low) is 75.

3. The patient has diabetes with a glucose level of 850 (NT80—1 10)_

A.

Card 5

1. SIADH is caused by any abnormality ofthe brain or lungs_ This can be a cancer: infarction: or infection_ SIADH is associated with an inappropriately high urüre sodium and osmolarity. The normal response to a low serum sodium should be a low urine sodium and low urine osmolarity_ SIADH is a case of euvolemic hyponatremia. Free water restriction is the treatment.

2. Psychogenic polydipsia is associated with bipolar disorder There is a nonnal urinary response to ryponatremia. 'The normal response is a low urine sodium-y and osmolarity A decrease in synptoms at night is the key to the diagnosis_ When he goes to sleep he stops drinking, so he stops urinating.

Q. Nephrology

3. Pseudohyponatremia is from an elevated glucose for any reason. For every increase in glucose of 100 above normal there is a 1.6-point decrease in the sodium.

Card 6

On routine screening: a patient is found to have a low sodium of 127_ He has no symptoms of the hyponatremia: and the neurologic exanination is normal.

L The patient has congestive failure with peripheral edema.

Nephrology

A.

2. He has 7 g of protein every 24 hours and the serum albumin is 2.4

(Norma13.5-5.5).

3. The potassium level is elevated at 6.2 mEqfL (Normal 3 5—5 2) and there is a metabolic acidosis_

Q. Nephrology

Card 6

I. Congestive heart failure (CHF) results in hyponatremia because of a decreased intravascular volume_ The same effect occus in cirrhotic patients. This is an appropriate increase in ADH because of the decreased intavascular volume.

A.

2. Nephrotic syndrome results in hyponatremia because of a decrease in intravascular volume from low oncotic pressure _ Nephrotic syn&ome here is the most A-ely diagnosis because of die low serum albumin level as well as the marked increase in protein in the urine_

3. Addison's disease or hypoadrenalism of any cause results in hypo-natremia. The loss of aldosterone results in the urinary loss of sodium and the retention of both potassiunn and hydrogen ions_

Q. Nephrology

Card 7

A patient with severe hypernatremia is admitted to the intensive care unit for confusion_ There is polyuria despite the increase in serum sodium. The patient is dehydrated.

L The urine volume markedly decreases in response to the administration of vasopressin_

A.

2. There is no response to the administration of vasopressin_ The urine volunne rernains high and the urine osmolafity remains low_

3. The patient has diabetes and the glucose level is markedly elevatedz but the serum bicarbonate is normal_

Card 7

Q. Nephrology

I. Central diabetes insipidus is an insufficiency of antidiuretic hormone (ADH) due to danxage to either the hypothalamus or posterior pituitary. There is a marked response in urine volume to the administration of vasopressin.

2. With nephrogenic diabetes insipidus (ND", there is no response to the administration of ADH_ NDI is often from bypokalemia or hyper-calcemia. There may alco be a history of Ethiunn ahüiistration.

3. Nonketotic hyperosmolar coma results in severe hypematremia when there is a marked osmotic diuresis from hyperglycemia.

A.

Card 8

A patient is seen because of muscular weakness_ There is also an elevated serum bicarbonate of 30_ The potassium level is decreased at 2.9.

Q. Nephrology

l. Vomiting is severe.

2. The patient is on a loop diuretic bec.ause of congestive fadure_

Card 8

A.

L Vomiting from any cause can cause hypokalemia. This is because the metabolic alkalosis from vomiting causes a transcellular shift of potassium intracellularly. This is alco because the loss of chloride from the stomach leads to an increase in bicarbonate reabsorption from the kidney This state is hypochloremic hypokalemic metabolic alkalosis_

Q. Nephrology

2. Diuretics cause bypokalemia because die volume depletion leads to hucreased aldosterone secretion. All volume contractions lead to metabolic alkalosis by this mechanism_ All cases of hypokalemia result in muscular weakness.

A.

Card 9

A man has mild proteinuria: foumd on a routine urinalysis.

l. He is a healthy athlete undergoing intensive physical training.

2. He is waiter. a split 24-hour urine is measued, due mornhlg has no proteüi but the afternoon urine shows trace proteinuria_

Q. Nephrology

3. He is generally bealtby and dre repeat urinalysis shows no protein.

Card 9

1. N•'ffd proteinmia can be found in healthy young athletes umdergoing physical training_ This is a benign finding and needs no Nuther testing.

A.

2. Orthostatic proteinuria can occur in those who stand up all day long. When the urine is split into a moming and evening protein measurement, there is more in the first eight hous of the day. is benign.

3. Between 1 and 10% of the population can have transient mild pro-teinuria_ If protein is not found on repeat testing it needs no frither follow- up. If it persists, a 24-hour trine measuement or proteWcreatinine ratio is performed. Only if the proteinuria is persistent or the ratio is elevated should a renal biopsy be performed.

Q. Nephrology

Card 10

A woman is in your clinic because of edema developing over months She has a normal echocardiogram. Her urinalysis shows 4+ protein and the spot protein/creatinine ration is 7:1. Triglycerides are elevated.

L There is a history of diabetes and hypertension_ The eyes show backgroumd retinopathy_

Nephrology

A.

2. She has been an igjection drug user ofheroin in the past.

3. She was recently diagnosed with lymphoma.

Card 10

Q. Nephrology

I. Nephrotic syndrome is the combination of edema, a 24-hour urine protein greater than 3.5 g: and hyperlipidemia_ A spot protein/ creatinine ratio greater than 3.5 is the same as a 24-hour trine protein. Diabetes and hypertension ze the most cornrnon causes of nephrotic syndrome_ The ratio of protein to creatinine is equal of the arnount found on a 24-hour urine_

2. Injection drug use and heroin both cause focal segmental glomer-ulonepbritis. HIV is al•o associated with focaVsegmenta1 disease_

A.

3. The most common cause cfnephrotic syndrome as aprünary &sease limited to the Edneys is membranous glomeru10nephritis.Membranous glomerulonephritis also associated with cancer such as lymphoma_

Q. Nephrology

Card 11

A man comes to see you because of persistent hematuria_ The urinalysis shows red-cell casts and 1+ proteinuriaw The urine sodium is low.

L The patient is Asian with a recent viral illness_ There are no systemic manifestations.

2. He has had lifelong eye problems and ear problems with deafness_

3. He had a pharyngitis a week ago and has periorbital edema.

Nephrology

A.

4. He has multiple systemic problems such as petechiae, joint pain, abdominal pain, and gastrointestinal bleeding. There is neuropathy. There is no huug hwolvement.

Card11

1. IgA nephropathy: or Berger's disease: presents as isolated hema-turia at the sank thne as a viral illness_ It is more connnon in Asians, ud is the most common cause of acute glomerulonephritis.

2. Alport's syndrome presents with glomerulonephritis in association with eye and ear problems such as deafiess_ A] forms of glomemlo-ngphritis g:i--€e red-cel casts ud nüd proteinuria-

Q. Nephrology

3. Poststreptococcal glomerulonephritis leads to "tea-" or "cola"colored urine which is proteinmia and hematuria_ Periorbital edema is characteristic. The blood show anti-streptolysin O antibodies as a sign of streptococcal infe&n.

4. Polyarteritis nodosa (PAN) presents as a systemic vasculitis with skin, joint, GI, CNS, and neurologic problems. PAN spares the lung.

Nephrology

A.

Card 12

A patient is in your offce for evaluation ofblood in his urine for the last few days.

l. He has burning on urination and must ulinate frequently.

2. He also has pain going from his sides into his groin. The pain is extremely severe.

3. Red-cell casts and protein are found in the urine as well_ Urine sodium is low.

Q. Nephrology

4. He has recently undergone chemotherapy.

Card 12

1. Urinary tract infections of any kind: such as cystitis or pyelonephTitis, can lead to hematuria_ I)efrlitive diagnosis rests on the location of die pain described in the question. Urinalysis and uuine cultue should stN be obtained

2. Nephrolithiasis, or kidney stones, present with severe flank pain radiating to the groin, also known as renal colic_

A.

3. Glomerulonephritis of any kind can present with hematuria_ When red-cell casts. red cells. and mild proteinuria are present the most diagnosis is glomerulonephritis_ The urine sodium is low because ofvasoconstriction of the afferent arterial, which is present all forms of glomeruloneplui€s.

4. Cyclophosphamide leads to hemorrhagic cystitis _

Q. Nephrology

Card 13

A patient comes in with hema-turia, joint pains, and pur-puric skin lesions. Urinalysis reveals red cells: red cell casts: and mild proteinuria. The spot protein./creatinine ratio is 1.2.

Nephrology

A.

l. History of hepatitis C and an IgM present in the blood_

2. A child with abdomh].al pain.

Card 13

Q. Nephrology

I. Cryoglobulinemia is most often associated with chronic hepatitis C_ Cryoglobulinemia leads to renal dysfunction: skin lesions, and joint pains. N europatby is common. Both cryoglobulinetnia and cold agglutinin dsease ue fom IgM antibodies in blood_ Cold agglutinin disease. however7 leads to hemolysis. not renal dysfunction. and is assoc.iated with mycoplasma_

Nephrology

A.

2. Henoch-Schönlein purpura is ffe most diagnosis when die patient is an adolescent or child presenting with gastrointestinal symptoms in combination '"ith renal, joint, and skin findings_ Palpable purpura of the lower extremities is the key. The most accurate test is a skin biopsy with IgA deposited in the skin, but routine biopsy is not necessary.

Q. Nephrology

Card 14

A 27-year-old woman comes in because of hematuria and flank pain as well as left lower quadrant abdominal pain with diverticuli foumd on colonoscopy. Auscultation shows a mid-systolic click. There are cysts fomd on die ovary and in the Wer as well_

Nephrology

A.

l. What is the most Ikely diagnosis?

2. What is the most corm-non cause of death?

Card 14

Q. Nephrology

1. Polycystic kidney disease presents with hematuria and can present with kidney stones that occur with increased frequency. In addition to kidney &sease, there are also cysts of the liver and ovary with diverti culosis, mitral valve prolapse, and aneurysmal disease in the circle of Wülis.

A.

2. The most common cause of death from polycystic kidney disease is renal failure. Renal fanure occurs from chronic and repeated infections such as pyelonephritis In addition. there are recurrent kidney stones secondary to the significant anatomic abnormalities_ Aneurysm rupture is not the most common cause of death from polycystic kidney disease.

Card15

Q. Nephrology

A patient comes in with the sudden onset of flank pain and hematuria_

l. There is a history of sickle-cell disease. The patient has taken extra doses of multiple pain medications_ including NSAIDs_ Thereis some necrotic material in the urine.

Nephrology

A.

2. The pain radiates to the groin in an otherwise healthy person_

A.

Card 15

I. Papillary necrosis occurs in patients who have tmderlying kidney disease such as sickle-cell disease or chronic pyelonephritis. The presentation is to nephrolithiasis in that there is sudden dank pain nnd hematuia. However, it often occurs from the use of extra NSAID medications and is assoc.iated with necrotic material in the urine_ The most accurate test is a CT scan_ There is no specific therapy.

nsufficiency

A.

2. Nephrolithiasis presents with sudden flank pain radiating to the groin_ The most accurate test is a spiral CT scan. Kidney stones do not need contrast to be vistble_ X-rays of the abdomen have poor sensitiGty_ The frltravenous pyelogramv (PCP) is dways a wrong choice; it is slow and is associated with the potential for renal and allergy from the contrast.

Q. Nephrology

Card 16

A man comes to the offce and is found to have casts in his urinalysis_

What diagnosis is suggested with each of the following casts?

l. White-cell casts

2. Red-cell casts

3. Eosinophil casts

4. Hyaline

A.

5. Muddy-brown or granular casts

Card 16

1. Pyelonephritis is associated with white-cell casts_ If they are there: they are specfic for the disease Generally: casts add litde to help the &agnosis, which is usuany ohious from the presence of fever; dysuria, and flank pain and tenderness.

2. Red-cell casts are specific to glomerulonephritis.

3. Eosinophil casts are specific to allergic interstitial nephritis_ They are not present as often as individual eosinophNs_

Q. Nephrology

4. Hyaline casts ue foud with dehydration or any other form of pre-renal azotemia. They are Oue accumulation of nonnal protein which sludges because of decreased renal flow.

5. Granular or muddy-brown cast axe found in acute tubular necrosis. The "granules[ü] are sloughed-off, necrotic epitheüal cells from the kidney tubules.

Neurology

A.

Card I

What is the "most likely diagnosis ' r when the following additional feat-mes are described?

A patient comes to the offce for evaluation of headache_

l. A woman with unilateral headache üat is throbbing at die thne of menses. She is nauseated and sees bright flashing lights. Light hurts her eyes and sounds are painful_

Q. Nephrology

2. Bilateral squeezing pain a belt tied aromd her head

3. A man with unilateral tearing and redness of his eye and nasal stuffiness_ There are several short headaches.

Card I

1. Migraine headaches are more often: but not always, unilateral with autonomic problems such as nausea and vomiting. Visual problems such as bright flashing lights, zigzags of lights, or visual field defects alco occu. There may photophobia and phonophobia. Migraines can be precipitated by menstruati01L physical or emotional stressö and loss of sleep.

A.

2. Tension headaches are bilateral and "bandlike." There are no associated netrologic problems.

3. Cluster headaches are 10 times more common in men. There are multiple short headaches in a h-nitedpaiod oftime_ They axe very severe with redness of the eye, lacrimation, rhinorrhea, and nasal stuffiness. Homer's syndrome sometimes

Q. Nephrology

Card 2

A man comes in with severe facial pain that occurred his I.vTe was gently stroking his face The pain is exyemely severe: started at one side of his face, and is ike "a nail being driven into my cheek."

Neurology

A.

L M•mat is the most diagnosis?

2. What is the best initial therapy?

Card 2

Q. Nephrology

1. Trigeminal neuralgia or "tic douloureux" is an idiopathic disorder ofthe fifth crania] nerve_ There is sudden severe pain of the face brought on by touch, chewing, or movement. The pain is lancinat-ing and unilateral.

2. Trigeminal neuralgia is treated with carbamazepine. Ifmedical therapy is not effective, surgical resection of the nave may be necessary.

Neurology

A.

Card 3

An elderly man is brought to the etnergency department with the sudden onset of weakness over the right side of his body, dysartbria, and loss of his right visual field. His head CT scan is normal.

Q. Nephrology

l. The sytnptoms began with unilateral loss ofvision on the left side. All sy-nptoms resolve in six hours_ N'iRI of the head is

2. The symptoms persist. NIF.-I ofthe head is abnormal in 24 hours.

A.

Card 3

1. Transient ischemic attacks (TIA) begin with the loss ofsensory and motor fimction that resolves in <24 hours_ All imaging studies are normal. TLAs often begin with "amaurosis fugax," which is a transient loss oftision. The visual loss is on the contralateral side from the other sensory and motor loss. This is from a carotid embolus on the same side as the visual loss.

A.

2. Stroke is a permanent neurologic loss. often from a non hemorrhagic embolic or hromboticepisode of the middle cerebral artery_ There is loss of motor and sensory function on the opposite side from the lesion_ This is frequently accompanied by a "homonymous bemian-opsia," which is the loss of die optic radiation offbers through the parietal lobe. A stroke on the left eliminates the visual field on the right. Patients [2]1.00k towards the side of the lesion"

Neurology

A.

Card 4

A man presents to the etnergency department with severe vertigo. He is found to have hemifacial anesthesia, dysarthria, dysphagia, and sensory loss of his body on the opposite side from the hemifacial anesthesia. He is ataxic and there is a Horner's syndrome present.

Q. Nephrology

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

Card 4

Neurology

A.

1. Wallenberg or lateral medullary syndrome is a stroke of the posterior inferior cerebellar artery (PICA)_ This results in ipsilateral facial sensory loss, contralateral body sensory loss, vertigo, ataxia, dysarthria, dysphagia, and Horner' s syndrome_

2. MRI of the brain is the most accurate way to assess the cerebenum and brain stem. CT scanning does not effectively look at the posterior fossa or the brain stem.

Q. Nephrology

Card S

A patient comes in with the sudden onset of weakness_ The weakness is unilateral and is worse in the lower extremity compared to the um. Sensory loss is also present that is worse in the leg. He is confused and there is urinary Incontinence_

Neurology

A.

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

Card 5

Q. Nephrology

1. Anterior cerebral artery stroke presents •with unilateral loss of motor and sensory function_ These symptoms are worse in the lower extremity compared to the upper extremity. There is also confusion and urinary incontinence.

A.

2. MRI of the brain is the most accurate method of determining the presence of a stroke_ Echocardiography and carotid Doppler studies are used to determine the etiology of die origin of the stroke, spe.üally lookng for evidence ofvegetaüons or intra cardiac frombus_

Q. Nephrology

Card 6

A man comes to the ernergency departrnent with sudden, extremely severe headache_ This is the frst such episode he has ever had

L There is photophobia, neck stiff ness, fever: and a loss of consciousness from which he recovers.

A.

2. He has unilateral loss of vision. which persists.

Card 6

1. Subarachnoid hemorrhage (SAH) results in a sudden severe headache with meningeal signs such as nuchal rigidity , fever, and photophobia. The nvo key featues in answering "uhat is die most diagnosis?" ze the

sudden onset of die symptoms and a loss of consciousness in 50% of patients. CT scan without contrast is 95% sensitive in detection of SAH. Lumbar puncture will detect the rest, showing red blood cells and/or Xanthochrotniæ

A.

2. Temporal arteritis leads to severe unilateral headache assoc.iated with loss of vision as well as tenderness of the scalp and the artery_ The answer is always to give steroids rather than wait for a temporal artery biopsy_ There may be jaw claudication and onset is the elderly.

Card 7

A woman comes in because of severe back pain_

Q. Nephrology

l. History of cancer, spine tenderness, hyperreflexia, urinary incontinence, and loss of sensation in the lower extremities

2. No tenderness and no focal neurologic abnormahties

3. Spinal tenderness, leukocytosis, and fever

Neurology

A.

Card 7

1. Spinal cord compression from metastatic disease is thought to be present when back pain is accompanied by tenderness, hyperrenexia, sensory loss below the level of the compression, md someüne urinary or fecal incontinence. Steroids are critical to prevent of symptoms.

Neurology

A.

2. Low back pain or lumbosacral strain has no accompanying focal neurologic problems. The straight leg raise may elicit "n suggesting disc herniation_ This does not change the answer for initial management. which is to give analgesics and not perform routine imaging testing_ Do NOT advise be&est!

3. Spinal epidural abscess is the answerwhen there is fever, leuko-cytosis, and spinal tenderness_ Imaging such as an MRI should be performed if there is spine tenderness, which suggests a compressive mass_

Q. Nephrology

Card 8

A is brought for evaluation of mental subnormality and seizures_

l. There is a port-wine stain on the face and leptomeningeal angiomas_

Q. Nephrology

2. Facial adenoma sebaceum, renal lesions, and "Shagreen patches" are present, wlich ue leathery plaques cf subepidermal fibrosis. usually situated on the trunk_ Retinal hamartomas are present_ Pale, hypopigmented "ash-lear patches are present_

Neurology

A.

Card 8

Neurology

A.

1. Sturge-Weber syndrome presents with seizures and mental sub-normality in association with a port-wine stain and leptomeningeal angiomas.

A.

2. Tuberous sclerosis gives hamartomas of the retina in association with ash-leaf hypopigmented areas_ There are also lesions cfthe heart and kiåeys. Adenoma sebaceum is reddened nodules on die face.

Q. Nephrology

Card 9

A patient comes in with loss of pain and temperature sensation of the lower extremities.

l. The loss ofpain and ternperature is bilateral. There is also loss of bilateral motor function_ There is strking sparing of position and vibratory sensation bilaterally_

A.

2. A knife wound is sustained to the back The loss ofpain and temperature is on the opposite side from the injury_ There is loss of position and vibratory sensation on the sat-ne side as the igjury _

Card 9

Q. Nephrology

1. Anterior spinal artery infarction results in the bilateral loss of all pain, temperature, and motor function below the level of the infarction. There is striking preservation of position and vibratory sensation, which has mother vascular supply on the posteior portion of the spinal cord

2. Brown-Sequard syndrome is henisection of the spinal cord Pain and temperature are lost on the opposite side from the lesion. Position and sense are lost on the same side as the injury_

A.

Card 10

A patient comes in some tirne after being involved in a motor vehicle accident_ There was spine tram-na_ The patient has lost pain and temperature sensation in a "capelike"distribution across the neck and down both arms. Touch, position, and ubratory sensation are intact_ Over thnev there is motor loss below the level of the injury_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

Q. Nephrology

3. What is the therapy?

Card 10

1. Syringomyelia presents with the loss ofpain and temperature in a capelike distribution across the neck and arms_ There is sparing of tactie sensation, position, and "bratory sense. Reflexes are lost. There may be lower motor neuron manifestations at the level of the lesion with upper motor neuron signs below the lesion as the lesion enlarges .Syringomyelia is caused by tumors and trauma.

A.

2. MRI is the most accurate diagnostic test.

3. Surgery is the treatment.

Card 11

An obese young woman comes in for evaluation of a severe headache and double vision_ She has recently started oral contraceptives. On physical examination, she has sixth-cranial-nerve palsy and papilledema. Head CT is nonnal.

Q. Nephrology

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

3. Iv%at is die best iniüal thetepy?

Card11

Neurology

A.

l. Pseudotumor cerebri is an idiopathic increase in intracranial pressure that occurs more often in obese women who are usilg oral contraceptives or tetracycline antibiotics. The key to the answer is the presence of a headache association with diplopia, papillede-ma, sixth-cranial-nerve palsy. and a normal head CT _

2. Lumbar puncture is the most accuate diagnostic test.

3. Treahnent is with the loss of weight combined with acetazola-mide and diuretics_ Steroids and surgical shunting are someünes necessary.

Q. Nephrology

Card 12

Your patient comes in with multiple bruises on her legs_ She is accompanied by her husband, whom she insists is kicking her every night. He denies this. He does say his legs axe mcomfortable at night md that this discomfort is relieved by moving his legs. His legs feel "creepy and crawly." He tries to avoid the problem by staying awake with coffee7 but this hasn't helped

Q. Nephrology

l. What is the most Ikely diagnosis?
2. What is the most effective therapy?

Neurology

A.

Card 12

Neurology

A.

1. Restless leg syndrome is an idiopathic disorder of discomfort in the legs at night that is relieved only by movement. It is worsened by sleeplessness and caffeine use. The patient describes the sensation as a "creeping and crawling" in the legs. The bed partner often brings the patient in because ofbeing kicked at night There is no specfic. test to confrm the diagnosis

A.

2. Dopamine agonists such as ropinirole or pramipexole are die treatment of choice.

A.

Card 13

A man comes to the offce for progressive muscular weakness_ The weakness is difise and is accompanied by dysarthria and difficulty chewing and handling saliva, with a decreased gag reflex. There is spasticity, hyperreflexia, muscle wasting, and fasciculations_

Q. Nephrology

l. What is the most Ikely diagnosis?
2. What is the most corm-non cause of death?

Card 13

1. Amyotrophic lateral sclerosis (ALS) is the only disease to combine both upper and lower motor neuron dysfunction.

Neurology

A.

Patients come with progressWe motor wea}mess, dysarthria, dysphagia, loss of gag reflex, and Ecu.lty handling oral secretions. Only the motor system is affected_ Upper motor findings are spasticity and hyperrenexia_ Lower motor fidings are wasting and fasciculations_ Mental fimction remains completely intact_

2. Death results from the inability to handle oral secretions and recurrent episodes of aspiration pneumonia_

Q. Nephrology

Card 14

A man comes to the ernergency departrnent with a seizure_ His head CT scan shows a "ring" or contrast-enhancing lesion. There is surrounding edema and modest mass effect.

L HIV-negative patient

2. HIV-positive patient. CD4 count is <100_ The repeat CT shows a smaller lesion after two weeks of pyrimeth-amine and sulfadiazine.

A.

3. HIV-positive patient. CD4 count is <100_ The repeat CT shows the lesion is unchanged after two weeks of pyrimethamine and sulfadiazine_

Card 14

1. "Ring" or contrast-enhancing lesions can be either neoplastic disease or infection. In an HIV negative patient: a brain biopsy must be performed to confirm the &agnosis. There is no clear way to detemine aprecise histologic type without a biopsy.

Q. Nephrology

2. Toxoplasmosis occurs HIV-positive patients with <100 CD4 cells. The response to treatment with pyrimethamine and sulfadiazine for two weeks is suffciently specfc to confirm the diagnosis.

3. Lymphoma presents as a contrast-enhancing lesion HIV -positive patients with < 100 CD4 cens. There will be no response to therapy for toxoplasmosis. A brain biopsy should be performed to confinn the diagnosis.

A.

Card15

A man comes to the offce for evaluation of a tremor_

l. The trenuor is in the hands and occurs at both rest and when he is moving them_ It is worse with caffeine. An alcoholic drink improves it.

Q. Nephrology

2. He is an older patient. The trernor is only at rest and does not occur when he is reachingfor an object.

3. There is no tremor at rest. Vi'hen he reaches for something, his hand wObbles considerably.

Card 15

Neurology

A.

1. Benign essential tremor occurs both at rest and when reaching for objects. Caffeine and beta agonists make it worse. Alcohol improves the tremor Treatment is wiå propranolol.

2. Parkinsonian tremor occurs at rest and is not present on such as when reaching for objects_

3. Cerebellar disorders such as a stroke result in a trenxor only when reaching for things_ This is simd.ar to an abnormal finger-to-nose test_ There is no tremor at rest.

Q. Nephrology

Card 16

A man is being evaluatedfor dementia_ He has poor short-term memory_

l. He has Parkinsonian features such as treanor. rigidity and gait abnormalities in addition to the dementia.

2. The dementia has been rapidly progressive over several months. He has myoclonus.

A.

3. There is gait ataxia and ut-hlar-y incontinence_

4. Social inappropriatenes and emotional lability preceded the loss ofmemory.

Q. Nephrology

Card 16

L Lewy body dementia is accompanied by features of the movanent disorder ofParkinson's disease_

2. Creutzfeldt-Jakob disease is characteized by rapidly progressive dementia and myoclonic jerks.

3. Normal pressure hydrocephalus is die triad of dementia, gait ataxia, and urinary incontinence.

N

A.

4. Frontotemporal dementia, or Pick's disease, starts with abnormalities of social appropriateness and anotional prior to dre loss ofmemory. There is nappropriate anger, laughing, or crying. N•IRI of die brah show focal lobar" atrophy cf the brü.

Alzheimer 's disease is slowly progressive loss of memory %itll no focal neurologic abnormalities.

Q. Nephrology

Card 17

A man in his thirties is brought in by his farÜ' for cognitive abnormalities_ He has developed progressively worsening emotional outbursts such as anger depression, and paranoia. There is a profound movement disorder simiar to chorea. He is now showing memory loss_

l. What is the most Ikely diagnosis?

A.

2. What is the most accurate diagnostic test?

3. What treatrnent is there?

A. **Neurology**

Card 17

1. Huntington's disease consists of personality changes such as emotional instabdity paranoia, and depression combined with a movement disorder and dementia. The disease is autosomal dominant.

A.

2. The diagnostic test is for a specific DNA sequence abnormality consisting ofCAG trinucleotide repeat sequences_

3. There is no specific therapy currently avalable for Huntington's disease_

Q. Nephrology

Card 18

A man is brought to the anergency department for weakness. The weakness began in his feet and has progressed to bilateral severe weakness of both legs. Knee-jerk and reflexes are absent. He recently had an episode of gastroenteritis_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

Neurology

A.

3. What treatrnent is there?

Card 18

1. Guillain-Barré syndrome consists of ascending weakness that progresses from the feet upward The weakness may hwohre die diaphragm, at which üne respiratory faiure develops. Deep tendon reflexes are lost an ascending faslion- There is an association of Guillain-Barré after an episode of Campylobacter gastroenteritis.

Q. Nephrology

2. The diagnosis is confirmed most accurately with nerve conduction studies which show a decrease in conduction velocity. CSF shows an elevated protein with no cells Pulmonary function tests are crucial to determine who is to develop respiratory paralysis_

3. Treahnent is with intravenous immunoglobulins or plasmapheresis_

Neurology

A.

Card 19

An alcoholic man is brought to the ernergency department with confusion, confabulation: and agitation. On examimation: there is paralysis of the extraocular muscles and gait ataxia.

Q. Nephrology

L M•mat is the most diagnosis?

2. What is the best initial therapy?

Card 19

Neurology

A.

I. Wernicke*s encephalopathy is characterized by the development of confusion, gaze palsies, and nystagmus as well as ataxia of the gait. It is most commonly found in alcoholic patients. It is caused by a deficiency of thiamine that is most cormnonly seen in alcoholics.

2. Treaynent for Wemick€s encephalopathy is Wiff the administration of thiamine. There are no specåc diagnostic tests.

Q. Nephrology

Card 20

A 72 year-old man is evaluated in the offce for rigidity, tremor, micrographia, and hypomimia_

l. Orthostatic hypotension is the most significant abnormality.

Neurology

A.

2. Vertical gaze palsy is strking.

3. Ataxia such as abnormal heel to-shin and finger-to-nose tests is the chief complaint_

A.

Card 20

1. Shy-Drager syndrome: Parkinson's disease with orthostatic hypotension as the mainfinding

2. Supranuclear palsy: Vertical gaze palsy is the most important feature_

A.

3. Olivopontocerebellar atrophy: Ataxia is the main feature.

Q. Nephrology

Card 21

A man with metastatic prostate cancer comes in for evaluation of pain and motor weakness of the lower extremities_ There is biateral leg weakness md sensory neuropathy. "Saddle" anesthesia or loss of sensation in the perineal area is strhg Bowel and bladder abnormalities are present.

Neurology

A.

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

Card 21

Q. Nephrology

I. Cauda equina compression is a peripheral nerve injury that presents with urinary retention, saddle anesthesia, and progressive leg weakness. Saddle anesthesia is numbness in the perineum, genitals, buttocks, and upper thighs. Urinary retention with over-flow incontinence may occur _ Anal sphincter tone is decreased in 60—80% ofpatients.

A.

2. MRI is the most accurate diagnostic test. Surgical resection of the compressive lesion should occur as soon as possible.

Q. Nephrology

Card 22

A chronic smoker comes in with an abnormal x-ray with a lesion in the superior sulcus_ On physical examination, he has drooping of his eyelid on one side. The pupis ue unequal size (anisoco-ria). The pupffremains constricted dark light. He does not sweat on one side of his face.

Neurology

A.

l. What is the most Ikely diagnosis?
2. What is the most corm-non cause?

Card 22

Q. Nephrology

1. Horner's syndrome is the presence of ptosis, or a "droopy" eyelid: with diminished elevation combined with anisocoria from die to &ate die pupü; as wen as anhydrosis, which is the loss of the abiity to sweat on one side. Homer's is the combination of ptosis, miosis. and anhydrosis.

A.

2. Horner' syn&ome is from loss of sympathetic stimulation. This cal be congenital or from cervical adenopathy, from carotid dissection. or from a "Pancoast" or superior sulcus tumor_

Q. Nephrology

Card 23

A patient comes in with weakness of the legs progressive over several months. There is loss of bladder control and abnormalities of the deep tendon reflexes. Hyperintense lesions of the white matter ofthe spine axe seen on NIB-I.

Neurology

A.

L The patient is from the Caribbean_ Motor defects are limited to the legs. There are antibodies to HTLV-I in the serum.

2. Motor defects are present in the arms as well. She had an episode of optic neuritis last year _ WIRI ofthe brain shows lesions as well_

A.

Card 23

1. Tropical spastic paraparesis (TSP) is from an unclear effect ofHTLV- 1 on the white matter of the thoracic spine_ Defects of the motor and sensory system are limited to the legs. Urinary abnormalities are present as well. There is no proven treatment_ Resolution does not occur. and the condition is chronic and progressive_ There are no ocular abnonnaKties in TSP.

A.

2. Multiple sclerosis presents with multiple motor, sensory, urinary, and autonomic abnormalities of the entire central nervous system_ Defects tend to relapse and recur They OCCUT in different areas over time_ The most cornmon single abnormality is optic neuritis.

Q. Nephrology

Card 24

A man comes in with muscular weakness_ The weakness makes it diffcult for hi-n to chew his food: and he has diffiulty swallowing.

L The weakness is worse at the end of the day _ Repetitive exercise makes it worse.

A.

2. He has a history of lung cancer and repetitive exercise makes it better_

3. The weakness occurred only after an ülålsion of gentamicin.

Card 24

1. Myasthenia gravis presents with worsening weakness with repetitive exercise_ There is ptosis and swanowing_

Q. Nephrology

The best initial test is antibodies to acetylcholine receptors. The most accurate test is an electromyogram. Tensilon (edrophonium) test confirms the diagnosis.

2. Eaton-Lambert syndrome is a myasthenia-&e syn&ome association with small-cell lung cancer. Repetitive exercise makes it better.

3. Aminoglycoside use can provoke muscle weakness by inhibiting the neuromuscular junction.

N

A.

Card 25

An HIV-positive man with 25 CD4 cells comes in for evaluation of multiple motor, sensory, and cognitive defects N'IRI reveals white-matter lesions in multiple places. The lesions do not enhance with contrast. There is no mass effect and no surrounding ederna

l. What is the most Ikely diagnosis?

Q. Nephrology

2. What is the most effective treatment?

Card 25

I. Progressive multifocal leukoencephalopathy (PML) results in multiple white-matter lesions with no ring enhancement and no mass effect. is a viral infection that causes disease only for those Wiff the most profound immunosuppression, such as AIDS with CD4 cells <50_ Toxoplasmosis and lymphoma both give mass effect and contrast enhancetnent_ PNfL is from the polyoma •Hus known as the JC virus_

N

A.

2. There is no specific antiviral therapy known to be effective for the JC virus caushxg PNfL_ The lesion resolve if antiretroviral therapy is used that raises the CD4 count_

Q. Nephrology

Card 26

A man comes to the ernergency departrnent because of a sensation of the room spinning around him: as well as nausea_ Nystagmus is present on exaiination.

L Changes in position of his head precipitate the vertigo. Hearing is normal and there is no tinnitus or ataxia_

2. Hearing loss, tinnitus. and ataxia are present

3. Hearing loss and tinnitus ze present. This is the first episode.

4. There are multiple episodes ofhearing loss and tinnitus in addition to a sense of "fullness" in his ears_

A.

5. There has been recent head trauma_

Card 26

1. Benign positional vertigo is isolated vertigo brought on by changes in the position of the hea& There are no other findings_

2. Acoustic neuroma or eighth-cranial-nerve tumor can have prominent ataxia in addition to hearing loss and tinnitus.

3. Labyrinthitis is a viral üfection cfthe inner ear that leads to a single episode of hearing loss, tinnitus, and vertigo.

Q. Nephrology

4. Méniére' s disease presents with recurrent and persistent episodes ofhearing loss, tinnitus, and vertigo_ This is likepersistent or recurrent labyrinthitis.

5. Perilvmph fistula OCCUTS from head Yaumaresulting in anatomic damage to the inner ear_ Allforrns ofvatigo are associated with nystænus.

Q.

Obstetrics/ Gynec010kY

Card I

A woman comes to the offce for evaluation of pelvic pain_ The pain begins several days before her period and continues until the menstrual flow slackens. She also has dyspareunia. Pelvic exam shows some tender nodules in the cul-de-sac.

is best

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

3. Iv%at die iniüal thetepy?

Card I

is best

ecology

A. Obstetrics/Gyn

I. Endometriosis presents with pelvic pain related to the timing of menstruation_ The pain begins a few days before the period and cor&ues untj the flow stops. Dyspareunia and infertility are often associated with it.

2. Ultrasound or MRI can be done as the best initial tests_ The most accurate test is laparoscopy.

3. Treatment for endometriosis is with combination estrogen/ progesterone contraceptives. Androgens such as danazol can also be effective_ GNRH agonists such as leuprolide or nafarelin can be used to inhlbit ovulation_ Mild discomfort is best treated initially with NSAIDs.

Q. Obstetrics/Gynecology

is best

ecology

A. Obstetrics/Gyn

Card 2

A primigravid woman comes to labor and delivery in her 35th week of pregnancy because of abdominal pain_ She is found to have a blood pressure of 150/92, pro-teinuria, and a headache. Peri-pheral smear shows schistocytes and fragmented cells. The AST ALT, and bilirubin are 3 times the upper limit of normal_ Platelet count is 87,000.

l. What is the most Ikely diagnosis?

2. What the next step in management?

Card 2

1. HELLP syndrome is cornprised of hemolysis, elevated liver function tests, and low platelets in a woman in her second or third trimester of pregnancy. Eighty-fie percent ofpatients have hypertension and proteinuria; hence, it is a vuiant of preeclanmpsia_ Many patients wN1 complain of abdominal pain_ Look for an abnormal blood smear, elevated transaminases, and thrombocytop enia_

is best

ecology

A. Obstetrics/Gyn

2. Delivering the baby is the mainstay of therapy_ There is no doubt that rapid deliva-y is the best managernent Ethe patient is at weeks of pregnancy_ For those at earlier stages of pregnancy, steroids should be given_

Q. Obstetrics/Gynecology

Card 3

A woman comes in because of abnormal vaginal bleeding. She has not had a period for 16 weeks. There is no fetal movement or heart sounds. The uterus is considerabl•y larger dian it would be at 16 weeks of gestation. She has passed "grapelike" clusters of material from her vagina_ Her HCG level is >40.000.

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

is best

ecology

A. Obstetrics/Gyn

3. What the therapy ?

Card 3

1. Gestational trophoblastic disease or hydatidiform mole presents with abnormal uterine bleeding, vomiting: and a uterus enlarged to a size greater dian would be expected at 10—16 weeks of gestational age. The HCG level is markedly elevated and there can be passage of grapelike clusters of material from the vagina_

2. Sonography is the most accurate test.

3. Surgical evacuation is the best initial therapy_

is best

Card 4

What is the "most likely diagnosis ' r in each of these cases ?

A 37-year old woman in her seventh month of pregnancy comes in because of vaginal bleeding_ She is a smoker with a history of hypertension_

1. The uterus is painful and tender_ There is fetal distress noted on the monitor_ Abnormally increased numbers of uterine contractions are present_ Sonography is frlconclusive.

2. The uterus is not tender or painful_ There are no abnormal uterine contractions_ Abdominal sonogrgphy co+ns the diagnosis_

A. ecology

Obstetrics/Gyn

Card 4

1. Abruptio placenta is painFUL late-trimester bleeding. The uterus is tender_ Abruption is the separation of the placenta from die uterine wall. Mid abruptio placenta wül have no fetal abnormalities. More severe abruption will present with fetal distress. If there is no fetal distress, the patient can be managed with conservative in-hospital observation_ More severe disease

A. ecology

Obstetrics/Gyn

with fetal distress requires delivery of the child. Sonography not confirrn the diagnosis of abruption_ Hypertension md smoking axe risk factors for abruption.

2. Placenta previa is puinLESS late-trimester bleeding. Sonogram confirms the diagnosis. Do not do a digital pelvic or speculum exam for abnormal bleeding without a sonogram to exclude placenta previa. The uterus is NONtender.

ecology Q. Obstetrics/Gynecology

A. Obstetrics/Gyn

Card S

A pregnant woman in her 27th week of pregnancy comes to the hospital •with edema and hypertension-Protein is present in ber urine.

I. Blood pressme is 148/96_ There is 2 g ofprotein in a 24-hour urine.

2. Blood pressure is 162/1127 and 7 g ofprotein are present in 24 hours.PlateIet count is 85,000. She develops a seizure.

ecology

A. Obstetrics/Gyn

Card 5

I. Preeclampsia presents with mild hypertension, edema, and modest proteinuria_ Platelet count is normal_ The management is conser€ative. R apid delivery is not necessary. Magnesium styate does not need to be given immediately.

2. Eclampsia is characterized by seizures, severe hypertension, marked proteinuria, and possibly thrombocytopenia_ Treaunent is with magnesium sulfate, labetalol, or hydralazine to control blood pressure and urgent delivery of the baby_ Diazepam-I can be used to manage seizures_

Card I

What is the "most likely diagnosis ' r in each of these cases ?

A patient comes to the eanergency department with the sudden loss of vision in one eye_ The eye is nat red. painful. or tender

l. Visual loss occurs "like a curtain coming down" in front of lis eye. There are bright flashes of light.

2. Pale, mnky retina with a "cherry-red" macula. The arteries have areas ofpallor frlterspersed with blood in a "boxcar" pattern.

3. Collections of blood are visible in the retina_

4. Headache and jaw claudication on chewing

5. Exammation is normal. Visual loss resolves in a few hours.

A. almology
Ophth

Card I

l. Retinal detachment presents "like a curtain coming down" with flashes and floaters. The question may describe a listory of head trauma.

2. Retinal artery occlusion gives a pale retina with a cherry-red macula_ The eye is not red or painful_

3. Retinal vein occlusion presents in the sank way as retinal artery occlusion. but acute hemorrhages are present on retinal examin atiom

A. almology
Ophth

4. Giant cell or temporal arteritis gives headache, jaw claudicatiom and tenderness of the temporal area. Occurs in patients older than so_

5. Amaurosis fugax from an ernbolus gives a normal physical examination_ The eye is not red, painful, or tenden

Q. Ophthalmologv

Card 2

A man comes to the ernergency departrnent with the sudden onset of a painful red eye_

l. The pupil is nonreactive and is fixed at mid {Nation_ Visual acuity is decreased_

2. A discharge is present. Lymph nodes are enlarged

Q. Ophthalmologv

3. Photophobia is present_ There may be history of sarcoidosis: syphüis, or Reiter [7]s syn&ome_

4. He sustained ocular trauma earlier today_ He feels like "sand is caught"under his eyelid

A. almology
Ophth

Card 2

1. Acute angle closure glaucoma gives a painful: tender hard eye with a nonreactive pupil fixed at the midpoint_ Tonometry shows hrreased pressure and the cup-to-disc ratio is >0.3.

2. Conjunctivitis is the only form of ered eye[n] that gives an ocular discharge. Viruses cause bilateral disease, enlarge the pre-auicular nodes, and cause itching of the eyes. Bacteria cause unilateral &sease.

A. almology
Ophth

3. Uveitis is associated with photophobia_ The diagnosis is confirmed by slit-lamp examination: and the best initial therapy is with topical steroids. Inflammatory bowel disease may be descnbed the case.

4. Corneal abrasion gives a feeling of "sand under the eyelids" from trauma. The most accurate test is fluorescein staining_ Contact lenses are A-ely to be described the case.

Q. Ophthalmologv

Card 3

An elderly man comes in for evaluation of visual loss over the last several months_ Peripheral vision is relatively intact Central vision is lost. He does not have diabetes or hypertension. Lesions are visible on the retina.

Q. Ophthalmologv

L Multiple "drusen" are vistble_ They are "dry," without new vessels

2. Straight lines appear wavy or curved_ There is a sudden deterioration *ion over weeks

A. almology
Ophth
Card 3

1. Age-related macular degeneration (ARMD) can be either "dry" or "wet." Dry ARN'ID presents with loss of central vision multiple yellow drusen on eye exam. This is very slowly progressive over months to years. There is no clearly proven therapy.

Q. Ophthalmologv

2. Wet ARMD have sudden, rapid progression over several weeks to months. Subr&al mid, hemorrhage, and Epid exudate are visible. Neovascularization appears as a grayish discoloration in the macular area_ Fluorescein angiography reveals the choroidal new blood vessels being forrned_ Treatment is with vascular endothelial growth factor inhibitors such as ranibizumab or pegaptanib. They are given by ültraiitreal üljection.

A. almology

Ophth

Card 4

A 34-year-old man comes infor evaluation ofvisual loss and eye pain developing over one to two weeks. He has diminished perception of red colors. The optic disc is swollen on exanmation. Eye pain is worsened by movement of the eyes. The pupil constricts only when light is shown in the unaffected eye_

l. What is the most Ikely diagnosis?

Q. Ophthalmologv

2. What is the most corm-non cause?

3. What is the most effective therapy?

Card 4

A. almology

Ophth

l. Optic neuritis presents with the unilateral loss of vision peaking in one to two weeks_ There is swelling of the optic disc and pain on movement of the eyes. "Color desaturation" is apartial form cfcolor-blin&ess. The normal eye wil see an object as dark red; the affected eye wül see it paler, such as pink_ An afferent pupillary defect is present. The affected eye will not constrict when a light is shown &ectly into it: but it "..vül constrict when the light is shown in the normal eye_ This is known as a Marcus-Gunn pupil.

Q. Ophthalmologv

2. Multiple sclerosis is the most common cause of optic neuritis Encephalitis and lupus can also cause optic neuritis

3. Most cases '.vül respond to steroids_

A. almology
Ophth
Card S

A patient comes in for the sudden onset of double vision and a headache_ He has had severe sinusitis that did not respond to antibiotics. Extraocular movements are markedly impaired. Cranial netves Ill, IV, and VI axe paralyzed. There is ptosis, ch emosisz and proptosis_

l. What is the most Ikely diagnosis?

Q. Ophthalmologv

2. What is the most accurate test?

3. What is the most important treatrnent?

Card 5

A. almology

Ophth

I. Cavernous sinus thrombosis is an acute thrombosis ofthe venous sinus surrounding the sphenoid sinus: usually from a sinus infection. The key to åe "most &ely diagnosis" question is the presence of ophthalmoplegia from palsy of the third, fourth, and sixth cranial nerves_ There is also marked redness and swelling of the eye (chemosis) and bulging forward of the eye (proptosis)_ Ptosis occurs from npairment ofthe third cranial nerve, which normally the eyelid When black material is present on the palate in a diabetic, the diagnosis is mucormycosis.

2. MRI is the most accurate test.

Q. Ophthalmologv

3. Surgical debridement is critical management. in addition to antibiotics_ Without surgerya mucormycosis is rupidly fatal_

A. Pediatrics

Card I

What is the "most likely diagnosis ' [r] in each of these cases ?

A clNd comes in with several days of cough, coryza, runny nose, and low-grade fever.

l. A barking, spasmodic cough and are present. The voice is hoarse.

Q. Pediatrics

2. After 7—10 days ofupper respiratory tract infection synmptoms paroxysms of coughing occur _ There is a striking inspiratory "gasp" or "whoop" after the paroxysm of cough. There ue typically five or more coughs the paroxysms cfcoughing.

Card I

I. Croup is a viral infection of the upper ai-way that results in a barking cough and inspiratory stridor_ The white-cell count and temperature may be mildly elevated A anterior-posterior neck x-ray will show subglottic stenosis. Treaument is with inhaled epinephrine and dexamethasone_

A. Pediatrics

2. Pertussis, or "whooping cough," presents with paroxysms of coughing fOllowed by a sudden high-pitched inspiration, or "whoop." Vomiting often follows the episodes of coughing_ The most accurate diagnostic test is a culture or PCR of secretions for Bor-detenapertussis_ Patients should be isolated_ Erythromycin and azithromycin are the antibiotics of choice. A history of lack of vacchations may be given.

Q. Pediatrics

Card 2

A comes in with the sudden onset of high fever, sore throat, drooling, dysphagia, and inspira-tory stridorSwallowing is painful The symptoms cause die to sit up, lean forward, and hyperextend the neck The voice is muffled_ Cough is absent_

l. What is the most Ikely diagnosis?

2. What is the most critical next step in management?

Q. Pediatrics

3. What is the best initial test?

4. What is die best ilitial therepy?

A. Pediatrics

Card 2

I. Epiglottitis is a respiratory emergency with a very +ritable appearing cHd with high fever, drooling: and both pain and difficulty swallowing. The chid leans forward with a muffled voice to aid in handling oral secreüons. dffculty breathhg is cornrnon and may suddenly Cough is absent.

2. Sudden airway obstruction may occur with oral exanination, veni-puctue, or any cause of anxiety!!! For ths reason åe most critical initial step is to transfer the patient to an operating room or an area where emergency tracheostomy can be performed!!

A. Pediatrics

3. Lateral neck x-ray may show a swollen epiglottis as a "thumbprint" as the frst test_ Direct visualization of the epiglottis should occur only ano the airway is secure!!

4. Intubation and ceftriaxone are the initial therapy after guaranteeing the airway not suddenly close off Dexamethasone is useful to decrease swelling

Q. Pediatrics

Card 3

A two-year old is brought in for evaluation of episodes of shortness of breath resulting in irritabdity The squats to relieve the shortness of breath. A systolic ejectionmurmur is heard at the upper left sternal border. The S2 is single. A right ventricular heave is present_

l. What is the most Ikely diagnosis?

Q. Pediatrics

2. What is the most accurate diagnostic test?

3. What is the best initial therapy?

A. Pediatrics

Card 3

1. Tetralogy ofFallot is a connnon congenital heart defect_ The patient may present at birth or later in ffe ifthe degree of pulmonary ouüw tract stenosis is Toddlers will squat in order to increase venous return to the heart and improve symptoms of sh01tness of breath. The S2 is single because the P2 is not heard_ Right ventricular enlargement occurs because of pulmonic stenosis (PS)_ The PS chives unoxygenated blood though a ventricular septal defect. Transposition of the great vessels becomes symptomatic hnmediately birdi as soon as the ductus uteriosus closes. The murmur of PS is heard at the upper left sternal border.

2. Echocardiography and cardiac catheterization ue the most accurate &agnostic tests.

3. Surgical closure is the Yeatnrnt_

A. Pediatrics

4. Tetralogy offallot has 1) VSD (ventricular septal defect)7 2) Puhnonary valve stenosis; 3) Over riding aorta and 4) Right Ventricular Hypertrophy

Q. Pediatrics

Card 4

A one year-old is brought •with abdominal pain.Blood is passed from the rectum There is nausea and vomiting_ What is die "most likely diagnosis " in each of these cases?

l. The pain originally occurred in episodes 15—20 minutes apart: but has now become constant. Lethargy has developed_ A sausage-shaped mass is palpable in the abdomen. The blood is with mucus so it looks "currant jelly."

A. Pediatrics

2. There are repeated episodes of bleeding Tenderness is present to the left of the umbüicus_ Upper and lower endoscopy are

Card 4

1. Intussusception is an idiopathic intestinal Obstruction that occurs in the first year oflife_ The key to the diagnosis is abdominal pain progressing from episodic to constant combined with bloody stool and a palpable

abdominal mass. Lethargy and vonuiting develop when the pain becomes constant. Ultrasound or contrast enema are the most accurate diagnostic tests_ Barium or air enema will successfully reduce of patients with intussusception. Surgery is seldom

2. Meckel's diverticulum presents with repeated episodes of lower gastrointestinal bleeding_ It can nimic appendicitis_ The diagnosis is based on technetium bleeding scan. Surgical resection is necessary.

A. Pediatrics

Card S

A male comes in with hypogonadism_ Testosterone levels are low.

l. At puberty extra-long bones developa with gynecomastia and a diminished sperm count. FSH and LH levels are abnormally high. The testes are abophic.

Q. Pediatrics

2. A male infant has no testes palpable in the scrotum_

3. Anosmia is present. There is renal agenesis. The LH and FSH levels ue markedly &üished.

A. Pediatrics

Card 5

1. Klinefelter's syndrome is hypogonadism associated with an abnormal karyotype_ The patient is _ LH and FSH levels are elevated, but the testes are nonfunctional with markedly low testosterone levels. These patients are normal umtil pubelty They develop extra long bones and gynecomastia. Treatment is with testosterone replacement_

2. Cryptorchidism is usually apparent much younger when one or both testes are missing from the scrotum. Sperm and testosterone levels wil be normal. Treatment is to surgically pull the testes down from the abdomen and attach them to the scrotum_ This is important to do as early as possible because of an increased risk of testicular cancer_

Q. Pediatrics

3. Kallmann's syndrome is a genetic defect resulting in low gonadotropin levels from a hypothalamic deficiency of gonadotropin-releasing hormone. Kalh-nann[7] s syndrome is associated with anosmia and renal agenesis.

Card 6

A ül is brought in because offiilure to achieve menarche_ The patient is short in stature compared to her sister: with a webbed neck, wide-spaced nipples, and short fourth metacarpals. She is hyper-tensive and has a murmur of bicuspid aortic valve _

A. Pediatrics

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

3. What is the treatment?

Q. Pediatrics

Card 6

1. Turner's syndrome is a karyotypic abnormahty with the absence of a second X chromosome in a phenot•ypic female_ There is a webbed neck, short stature, short fourth metacarpal, and cardiac abnormalities such as coarctation of the aorta and bicuspid aortic valve_

A. Pediatrics

2. Karyotype shows 45,X.

3. Treahnent is with growth hormone and estrogen replacement_

Q. Pediatrics

Card 7

A patient comes in with pain in his testicle.

l. One testicle is higher than the other and lies in an abnormal horizontal axis_ The enfre testicle is tender and edematous and there is nausea and vomiting_ The cremasteric reflex is absent_

A. Pediatrics

2. There is relief ofpain with elevation of the testis_ Fever and symptoms ofdysuria are present There is point tenderness on part of the testis _

Q. Pediatrics

Card 7

1. Testicular torsion presents as a surgical emergency •with sudden: very severe pain and swelling of the entire testis . The cremaster reflex is absent and there is no relief of pain with elevation of the testis. The axis of the testis is elevated and horizontal. Sonogram may help confrrn the diagnosis it is not clear from the exam. Treatment is witll surgical reduction of the testis.

A. Pediatrics

2. Epididvmitis presents with a painful testis that may show reliefwith elevation of the testis. Both testes are at the same height and there may be fever and irritative symptoms on urination_ There may be redness of the testis. Diagnosis is initially with Gram stain of the urethral contents the most accurate test is a DNA probe or cultue. Odoxacin or levofloxacin is useful_

Q. Pediatrics

Card 8

An infant is noted to have copious secretions shortly after birth_ There is drooling, choking, respiratory distress: and an inability to feed. Air is present eye gasEointestinal tract.

L M•mat is the most diagnosis?

2. What is the test?

A. Pediatrics

3. Iv%at is die &eatnent?

Q. Pediatrics

Card 8

1. Tracheoesophageal fistula and esophageal atresia present •with drooling and respiratory distress along with choking and cyanosis shortly after birth.

2. Diagnosis is initially determined by the inability to pass an orogas-tric tube. Contrast studies confirm the diagnosis.

A. Pediatrics

3. Treahnent is with surgical ligation of the fistula. If atresia is present; the ends of the esophagus may be surgically re-anastomosed_

Card 9

A comes in with pain in his leg and a limp unrelated to traunna_

Q. Pediatrics

l. A five year-old chüd comes in with a progressive limp with pain that is relieved by rest_ X-ray of the hip shows widening of the articular space_

2. An adolescent patient who is obese has groin pain radiating to the knee and thigh. X-ray shows medial displacement of the epiphyses and a wide yowth plate_

A. Pediatrics

Card 9

I. Legg-Calvé-Perthes disease presents •with a pain in the anterior thigh that is relieved by rest. The is t•ypically five years old and walks with a limp. Pü is relieved by rest. This is probably from avascular necrosis of die femoral head. X-ray is the best initial test. The disorde« is sef healing_ Range of motion exercises are appropriate_

Q. Pediatrics

2. Slipped capital femoral epiphyses presents in older children who are obese. Radiographs show medal displacement cf the epiphyses Surgical pinning or external fixation are often necessary.

A. Pediatrics

Card 10

A two-year old Asian comes in with fever that is not responsive to antibiotics_ Bilateral conjunctivitis is present: with a rash, strawberry tongue, lips that are &y md cracked, and cervical adenopathy. There is edema of the dorsum of the hands and feet_ The superficial layer of shi comes off in large sheets.

l. What is the most Ikely diagnosis?

2. What is the most dangerous complication?

Q. Pediatrics

3. What is the treatment?

Card 10

1. Kawasaki' s disease: or mucocutaneous lymph node ynchrome, begins with a fever and progresses to bilateral conjunctivitis, rash, edema of the dorsum of the hands, and cervical adenopatby.Mucous membrane invohrement is cornnwn_ Although the sedhnentation rate 7 C-reactive protein. and platelet count are elevated. there is no specific test for Kawasaki's disease.

A. Pediatrics

2. Coronary artery aneurysm and myocarditis with decreased myocardial contractdity are the most dangerous complications of therapy_

3. Treahnent is with intravenous immunoglobulins and aspirin in order to prevent cardiac involvement_

Q. Pediatrics

Card 11

A comes in with markedlv enlarged lymph nodes in his elbow, axmaryz and cervical areas_ The nodes are tender and there is a fever. The cu has a kitten, tutle, and fish as pets.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

A. Pediatrics

3. Iv%at is die &eatnent?

Q. Pediatrics

Card11

I. Cat-scratch disease is the development of painful, tender nodes a few days or weeks after a scratch or bite from a cat. Fever is not ahvays present. A small number of patients develop ocular involvement, encephalitis, or seizures.

A. Pediatrics

2. Serologic testing is often helpful. The most accurate test is aspiration of a lymph node with PCR or Warthin-Starry staining of the material

3. No treatment is necessary if the involvernent is limited to the lymph nodes_

Q. Pediatrics

Card 12

A year-old comes in with joint pain_ There is also fever_ Multiple joints are red, warm, swollen, and painful_ In addtion, there is a new heart murmur. The anti-streptolysiu O titer is elevated. EKG shows a prolonged PR interval. Throat cultiffe is negative.

A. Pediatrics

l. What is the most Ikely diagnosis?
2. What is the therapy?

Card 12

Q. Pediatrics

1. Acute rheumatic fever is diagnosed with the presence of two of the major criteria (carditis, arthritis, subcutaneous nodules, chorea, and erythema marginatum). The diagnosis is alco determined Wiff die presence of one major criterion plus two minor criteria (fever, arthralgias, high ESR, and prolonged PR interval on EKG)_ The diagnosis requires confrmation of the presence ofrecent streptococcal infection, such as a throat culture or anti-streptolysin O titer_

A. Pediatrics

2. Treahnent is with antibiotics (penicillin, erythromycin) for streptococcus and aspirhl_ Prophylactic penicillin is used until age 21_

Q. Pediatrics

Card 13

A 12-year-old comes to the offce for evaluation of progressive leg weakness_ He is umable to keep in running with his peers and has frequent tripping. Physical exam shows a high arched foot (pes cavus) and hammer toes. He has relatives with the sanue foot shape abnormality.

A. Pediatrics

l. What is the most Ikely diagnosis?
2. What is the best initial diagnostic test?

Card 13

Q. Pediatrics

I. Charcot-Marie-Tooth syndrome is progressive peroneal muscle atrophy_ It presents with progressive weakness of the muscles of the legs with a high arched foot (pes cavus) and hammer toes. Vibratory sense and general sensation are also lost in a glove-and-stocking pattern. Reflexes are also lost Gait abnormalities. such as a "steppage" gait. develop.

A. Pediatrics

2. Nerve conduction studies show marked slowing of conduction. Biopsy of a peripheral nerve, such as the sural nerve, shows marked axonal degeneration_

Q. Pediatrics

Card 14

A neWbom with a family history of cystic fibrosis comes in with bilious vomiting, abdominal distention, and failure to pass meconium. The pain is worst in Oue fight lower quadrant. There is weight loss and poor appetite.

L M•mat is the most diagnosis?

A. Pediatrics

2. What is the best initial test?

3. Iv%at is die best iniüal thetepy?

Card 14

Q. Pediatrics

1. Meconium ileus occuns ahnost exclusively in those with a history of cystic fibrosis when tenacious meconimn obstructs the terminal neum. Patients present shortly after delivery with vomiting and right lower quadrant abdominal pain and distention_

2. X-ray of the abdomen shows a "soap-bubble" appearance of ah blibbles mÄed in with åe meconiuu.

A. Pediatrics

3. Treatment is with enemas. Acetylcysteine can be combined 'With the enana_ Ifthis is not effective, surgery (such as a laparotomy) is performed.

Q. Pediatrics

Card15

A is brought in with confusion, and intermittent periods of disorientation_ The patient had a recent viral syndrome and was given aspirin. Five days later, severe vomiting developed, fonowed by altered mental status. AST and ALT are 2 to 3 times normal_ Bhbin and CSF are normal.

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

A. Pediatrics

3. What is the therapy?

Card 15

1. Reye's syndrome is encephalopathy combined •with hepatic fatty infiltration in a cmd who has •recently had aspirin or salicylates for a viral syndrome, specifically chickenpox. CKticd manfestations can be extremely severe, with deepenhlg stages of coma manifested by progressive unresponsiveness, seizures, pupils that are fixed and dilated. and respiratory arrest_ SLADE diabetes insipidus, and hypotension can occm_

Q. Pediatrics

2. The diagnosis of Reye's syndrome is based on encephalopathy combined with fever, hepatic steatosis, and recent aspirin use. Liver biopsy is the most useful test because it confirms the presence offat in the liver_ Blood and CSF glucose levels are frequently low. The bdirubin is normal, but the prothrombin time is often elevated.

3. There is no specific therapy for Reye [7]s syndrome_

Q. Pediatrics

Card 16

A 12-year-old boy comes to see you because ofpain just below the knee_ He is very active in sports and is generally healthy .There is tenderness and swelling of the tibial tuberosity a few inches below the knee at the pateUar tendon insertion site.

2. is the

Q. Psychiatry

L M•mat is the most diagnosis?

What treatment?

Card 16

2. is the

A. Pediatrics

l. Osgood-Schlatter disease is a chronic traction injury at the insertion point ofthe patellar tendon on the tibial tuberosity_ The key to the dagnosis is pain, swelling, and tenderness on exam a few inches below the knee. Osgood-Schlattet disease is probably the most frequent cause of knee pain in chldren_ It is always characterized by activity-related pain_ The question may descnbe a child rubbing the top of the shinbones. The diagnosis is by exarnination_

Q. Psychiatry

2. Treatment of Osgood-Schlatter disease is rarely necessary besides some analgesics_ It resolves spontaneously over several weeks or months_

2. is the

A. Pediatrics

Card I

A 12-year-old is brought in for evaluation of abnormal movements ofhis face and shoulders. There is facial grimacing, bead-jerking, and blinking. He produces vocal sounds that axe barking or grunting quality and seem to be involuntary. Occasionally he yells out obscene words

Q. Psychiatry

l. What is the most Ikely diagnosis?
What best initial therapy?

2. is the

A. Psychiatry

Card I

1. Tourette's syndrome is the combination of motor "tics" which can be accompanied by the involuntary use of foul language and barking or grunting sounds. Tics are sudden, brief, iltertnittent movements (motor tics) or utterances (vocal or phonic tics) They are briefl rgpid_ repetitive. and seemingly purposeless stereotyped action that may involve one or more muscle groups_

Q. Psychiatry

2. Treahnent for 'Tomette 's syndrome is with clonidine or antipsychotic medication such as haloperidol or risperidone_

2. is the

A. Psychiatry

Card 2

A man with a history of depression is brought to the etnergency department with muscular rigidity, myoclo-nus, fever, ataxia, confusion, tremor, and sweating. He was recently started on paroxetine. Meperidine was used yesterday for pain Dextromethorphan was started for a cough.

Q. Psychiatry

l. What is the most Ikely diagnosis?
What treatment?

Card 2

2. is the

A. Psychiatry

1. Serotonin syndrome is a collection of s»nptoms and physical find ings such as muscular rigidity, myoclonus, fever, ataxia, confusion, tremor, and sweating. There is no specåc test to confrm the diagnosis. The main clue to eye answer is the recent initiation of SSRI antidepressants_ Dextromethorphan and meperidine increase the level of serotonin. They canprecipitate the start of the syn&ome.

Q. Psychiatry

2. There is no specific therapy for serotonin syndrome. Discontinuing the medications wpm lead to the pror»pt resolution of symptoms_

2. is the

A. Pulmonary
Pulmonary

Card I

What is the "most likely diagnosis ' r for each of the patterns descnbed below?

A patient comes in for evaluation of shortness of breath over the last several months_ His physical examination and chest x-ray cannot determine a clear diagnosis Pulmonary function testing is performed_

1. FEVI 52%. FVC DLCO 40%. TLC58%

Q.

2. FEVI 44%, FVC DLCO 45%, TLC 128%

3. FEV 1 95%: FVC 92% DLCO 1 100/0, FEVI decreases by 25% with methacholine FEV I forced expiratory volume in one second FVC, forced vital capacity DLCO, dfflsion capacity of the lug for carbon monoxide TLC, total lung capacity

Card I

l. Restrictive lung disease secondary to interstitial lung disease gives a decrease in both the FEVI and the FVC but the proportion benveen them is normal. Everything is decreased, but it is decreased equaly. Because of interstitial fibrosis, die DLCO is decreased Carbon monoxide cannot adequately diffuse across the membrane_

A. Pulmonary

2. Obstruction lung disease (COPD) decreases both die FEVI and the FVC, but the FEVI decreases far more. The TLC is increased. but the volume is not usable because it is residual volume that paltic.ipates in gas exchange_ Increasing RV is what leads to flattened diaphragms: and a barrel chest. The DLCO is decreased in COPD: the parenchyma is destroyed in the hmg, and you cannot exchange gas the lug is destroyed.

3. Asthma appears similar to COPD except that there is reversibility with bronchodilators. If the patient is normal at rest, methacholine is used to provoke a decrease in FEVI to confirm the dagnosis. Because the lung parenchyma has not been destroyedv the DLCO is nonnal_ It can also be increased from the hyperventilation.

Q. Pulmon ary

Card 2

A man comes to the offce for evaluation of persistent asthma despite the use of inhaled broncho&tors_ In addition to episodes of shortness of breath he has sputum with brown plugs, transient infiltrates on chest x-ray, md eosinopbilia on CBC. There are "tram-track" markings on chest x-ray.

Q. Pulmon ary

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

A. Pulmonary

Card 2

1. Allergic bronchopulmonary aspergillosis (ABPA) presents with many qualities similar to asthma_ There is shortness of breath, hemoptysis, cough, and wheezing. In addition, die chest x-ray shows recurrent transient ii&ates ud "tram-track" lines in the bronchi_ These yarn-track lines are indicative of edema of the bronchial wall and bronchiectasis_ An elevated eosinophil count is the main clue to the diagnosis_

A. Pulmonary

2. The most accurate diagnostic tests are an elevated level ofIgE, Aspergmus precipitans in serum, Aspergillus-specific IgE and IgG and sometimes increased skin test reacüGty to Aspergillus Aspergillus can sometirnes be grown from sputurn_

3. Treahnent is with prednisone and itraconazole_

Q. Pulmon ary

Card 3

An obese, middle-aged man comes to the offce for excessive daytime sleepiness_ He also notes impaired concentration_ His wfe says he snores a lot. On physical examination, he is obese ud has hypertension.

Q. Pulmon ary

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Q. Pulmon ary

Card 3

1. Obstructive sleep apnea is defined as the presence of excessive daytime somnolence combined with several additional findings, such as snoring, frequent noctunal awakening, unrefreshing sleep, and impaired consciousness. Hypertension is found in 50% ofpatients but is not part of the diagnostic criteria of the disease.

A. Pulmonary

2. The most accurate test is polysomnograpby. The is the most accurate way to document periods of desaturation as wen as periods of apnea or hypopnea_ By definition. obstructive sleep apnea is a combhlation of the symptoms just descnbed combined with episodes per hour of apnea or hypopnea_

3. Treahnent is with continous positive airway pressure (CPAP)_

Q. Pulmon ary

Card 4

A man comes to the offce with several months of cough productive of large volutnes of sputum. He has fever and bemoptysis.

l. Fat malabsorption, intestinal obstruction: and azoospermia_ There are episodes of shortness of breath as well.

2. Poor dentition. fritoxicationa seizuresz strokea or intubation_ The sputum is foul-smelling_

A. Pulmonary

3. Episodes of coughing and sputum production come and go. It is a chronic long-term disease.

Card 4

I. Cystic fibrosis is characterized by pancreatic insufficiency leading to fat malabsorption, infertility from azoospen-nia, and intestinal obstruction. The azoospermia happens from hnperfectly formed ducts in the male as well as blockage of sperm transpolt from inspis sated secretions. The sputum is chronically colonized by multiple organisms.

Q. Pulmon ary

2. Lung abscess occurs in those with poor dentition and a reason for increased aspiration such as seizures, stroke, intoxication. or emergency intubation_ All of these impair the gag reflex.

3. Bronchiectasis is characterized by long-term, recurrent episodes of cough, sputum production, and infection. The diagnosis is confirmed on high-resolution CT scan_ All of these diseases can give fever and hemoptysis.

A. Pulmonary

Card S

A patient is on his third postoperative day when he is found to be suddenly short of breath. His lungs are clear to auscultation. His pulse is 115 and lis blood gas shows hypoxia.

L M•mat is the most diagnosis?

2. What is the most accurate diagnostic test?

Q. Pulmon ary

3. Iv%at is die best next step management?

A. Pulmonary

Card 5

L Pulmonary emboli (PE) present with the sudden onset of shortness of breath with a normal lung examination. There are no Definite physical finügs conclusive of the &agnosis of PE. Pneunothorax does not give abnorma&s on chest exun f it is small. That is why the best initial test is a chest x-ray The x-ray would also exclude foreign body aspiration_ Chest x-ray is most often normal in a PE.

2. The most accurate test for a PE is an angiogram, although tllis is rarely done Spiral CT scan has become the standard of care in terms of testing; however: the sensitivity of the test is not ideal_ patients are often best tested with a Ddimer test by ELISA. The negative predctWe value of tHs test is yeater thm a negative spiral CT scan.

A. Pulmonary

3. Starting treatment with heparin is more important than waiting for a definitive diagnostic test such as the CT: VfQ scan, or angiogram. The presentation of the sudden onset of shortness of breath with clear lungs is critical to the diagnosis_ CHF and asthrna give clear abnormalities on exam. Pneunmonia is not sudden_

Q. Pulmon ary

Card 6

A 38 -year-old African American woman comes to the offce with several months of shortness of breath and dry cough. She has tender patches on her skin just below her knees. There axe crackles on lung exam, and the x-ray shows hilar adenop athy_

Q. Pulmon ary

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

A. Pulmonary

Card 6

1. Sarcoidosis is characterized by shortness ofbreath with a dry, nonproductive cough_ Sarcoidosis is far more common in African American women. Sarcoid is characterized in ahnost an cases by some form of abnormal lung finding on chest xray_ This can be paratracheal. or mediastinal adenopathy alone or in combination with parenchymal involvement Although systemic symptoms such as fatigue: fever and weight loss can OCCUL the diagnostic is strongly based on seeing a woman with chronic dty cough. Enlarged lymph nodes on x-ray is the most characteristic finding of sarcoidosis.

A. Pulmonary

2. The most accurate diagnostic test is a lung or hilar node biopsy looking for non-caseating granulomas_

3. Prednisone is the treatrnent of choice

A. Pulmonary

Card 7

A 60 year-old man •with alcoholic cirrhosis has been a&nitted to the hospital with shortness ofbreath_ There is an increased alveolar-arterial gradient. His shortness of breath md hypoxia become worse when he sits upright. The chest x-ray and Ddiner are normal.

Q. Pulmon ary

l. What is the most Ikely diagnosis?
2. What is the most accurate diagnostic test?

Card 7

A. Pulmonary

1. Hepatopulmonary syndrome is the triad of cirrhotic liver disease, hypoxia, and worsening of shortness of breath upon sitting upright. Worse dyspnea on being upright is referred to as orthode-oxia. It is presumed to be from vasodilatory substances that are not cleared by the diseased liver _ This leads to abnormal pulmonary vascular &tion and right-to-left shunting_

Q. Pulmon ary

2. Hepatopulmonary syndrome can be confrmed by contrast echocardiography. Technetium-labeled albumin as a perfusion study can also be diagnostic.

A. Pulmonary

Card 8

A man comes to the offce for progressively worsening shortness of breath and cough_ He has a barrel-shaped chest_ On x-ray there ue flattened diaphragms and bullae. Blood gas shows retention of carbon dioxide and an elevated bicarbonate level _

Q. Pulmon ary

l. He is an elderly, long-term smoker.

2. He is younger than 40 and has never smoked_ He also has unexplained liver disease_

Card 8

A. Pulmonary

I. Chronic obstructive pulmonary disease (COPD) generally occurs in long-term smokers, particularly those over the age of 60. All fonns of COPD are associated with progressively worsening shortness of breath, cough, barrel-shaped chest, and flattened diaphragm on x-ray _ Cigarettes markedly accelerate the usual loss oflung finction as the patient ages.

2. Alpha-I-antitry-psin deficiency results in premature emphysema in a nonsmoker under the age of 45. The findings can be identical to COPD that occurs in older smokers_ There can also be evidence of unexplained cirrhosis as well_

Q. Pulmon ary

Card 9

A patient comes in with slowly progressing shortness of breath over the last year or two_ He has no fever _ He has a dry cough, dry crackles on exam, and a loud P2 heart sound. His chest x-ray shows bilateral interstitial disease.

l. He worked as a rock blaster before being a glass manufacturer_

Q. Pulmon ary

2. He makes underwear _ His shortness ofbreath is worse on Monday and irnproves by the end of the week.

3. He was a shipbuilder, and he has pleural plaques on chest x-ray.

4. He manufactured electronic equipment: and he has granulomas that respond to steroids

A. Pulmonary

Card 9

1. Silicosis is a form of interstitial lung disease that occurs in those exposed to sand, glassmaking, rock-blasting, or raw quartz It presents with a dry cough, shortness of breath, and interstitial infiltrates on chest x-ray and chest CT scm. There is no therapy.

2. Byssinosis occurs in euose exposed to raw cotton, such as the manufacture offabrics. It is a ope of reactive airways disease that is worse on the first day ofthe work week_

A. Pulmonary

3. Asbestosis is classically foud shipbuilders. It is associated with pleual plaques. The most common cancer aSbestosis is lung cancer7 not mesothelioma_

4. Berylliosis is arue cause of granulomatous lung disease in association with the manufacture or recycling of electronic equipment and fluorescent light bulbs in the past Steroids have been effective

Q. Pulmon ary

Card 10

A man is brought to the intensive care Lillit with acute shortness of breath and hypoxia. He has been placed on mechanical ventilation. He had a stroke and you presume that he as#ated gastric contents, resulting in pneumonia. He has bilateral infiltrates and his wedge pressure is nonnal_ The ratio of Pao to inspired oxygen is <200_

l. Vehat is the most diagnosis?

A. Pulmonary

2. What is the most accurate diagnostic test?

Card 10

Q. Pulmon ary

1. Acute respiratory distress syndrome (ARDS) is a disease of diffuse lung igjury that results from sepsis, aspiration, trauma, pancreatitis, or trauma. There is diffuse capillary leak. The chest x-ray shows biateral infiltrates, and there is marked hypoxia_ The chest x ray looks Wae CHF but the pressunes are normal.

2. There is no specific diagnostic test for ARDS. It is a presumptive diagnosis. The ratio of the arterial pO to the fraction of inspired oxygen (Pao /FiO) is <200.

Q.

Rheumatolcwy

Card I

A usually sedentary 50 year-old man comes to the offce for evaluation of painful arms and legs with thickened, erythematous, edematous skin. Limb movement is by die pain and thickeni•ug. There is orange tinge to the skin that resernbles an orange peel or "peau d'orange." This began just after he started a vigorous exercise program. The white-cell count is elevated with eosinophils_

1. What is the most Nzely diagnosis?

2. What is die most accurate diagnostic test?

3. Why ism 't this scleroderma?

Card I

L This patient has eosinophilic fasciitis_ Eosinophilic fasciitis is characterized by thickened, edematous skin that can restrict movement and looks scleroderma. The skin color is orange-tinted. The key to the dagnosis is skin changes combined with blood eosinophilia_ It often begins in a sedentary person who begins a new, vigorous exercise prograrn_ The skin is thick to the point ofresetnbling an anitnal* s hide _ Less comrnon features are joint pain and carpal tunnel syn&ome

A. Rheumatology

2. The most accurate test is a skin biopsy.

3. Scleroderma has -him,' , smooå skhl. Scleroderma usually has Raynaud's phenomena and esophageal invoWement. Scleroderma does not give an eosinophilia Scleroderma would be the most connnon wrong answer:

Q. Rheumatology

Card 2

A 40 year-old woman comes in with progressive muscular weakness occurring over several months She cannot rise from a seated position without using her hands. The muscles axe tender. There is a purplish periorbital rash and scaly lesions over eye extensor surfaces of knuckles_ The CPK level and aldolase are elevated. The ANA is positive_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

A. Rheumatology

3. What other disease is the patient at risk for?

Card 2

I. Polvmyositis and dermatomyositis present with proximal muscle weakness that makes it difficult to rise from a seated position or to walk on stairs. Hah' of die patients al-o have muscle pain. Dermato-myositis is associated with a "heliotrope" rash, a purplish peiorbital rash. Gottron papules are scaly lesions over the metacalpophalangealjoints Elevation of the levels of CPK and aldolase are expected. A positive ANA is present in 80% of patients.

2. The most accurate test is a muscle biopsy. Antibodies to Jo-l are present in 30% ofpatients and are extremely specific for dermatomyo-sitis_ Abnormalities in the electromyogram (EMG) are e&pected

3. Pol»nyositis gives an increased risk of malignancy and cardiac involvement_

Q. Rheumatology

A. Rheumatology

Card 3

A middle aged woman comes in with several months of dry eyes and difficulty chewing and swallowing, particularly with dry food. She feels constantly and al-o has dyspareunia. She feels there is "sand under ber eyelids." Physical exarnination reveals markedly enlarged parotid glands and multiple dental caries_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

3. What is the worst complication of this disorder?

Card 3

1. Siögren's syndrome is an autoinmune disorder caused by lymphocytes attacking the lacrimal and salivary glands. Patients complain of dry eyes and dry mouth, which is '11<0 known as Sicca syndrome. Vaginal dryness leads to dyspareunia. Saliva is necessary to physically wash food off of teeth and has protective IgA antibodies The loss of saliva leads to severe dental caries as well as the loss of taste and smell.

2. The diagnosis is confrmed with a Schirmer test. in which filter paper is placed in the eye. A normal person can moisten 15 mm ofthe paper _ Those with Sjögren* s syndrome moisten mm_ Anti-SS-A and anti-SS-B antibodies are present

A. Rheumatology

in 6S— 70%. The ANA is present in YO— 95%, and the rheumatoid factor in 80%. The ANA and rheunatoidfactor ue nonspecfic Biopsy of the gland is rarely necessary.

3. Patients with Sjögren's syndrome are at risk of lymphoma.

Q. Rheumatology

Card 4

A 24 year-old woman comes in for evaluation of recurrent joint pain and a rash on her face. She has had episodes of fever that have never been diagnosed In addmon to fatigue and some weight loss, she also reports ültermittent chest pain that changes with respiration. The urinalysis shows red cells and protein.

l. What is the most Ikely diagnosis?
2. How wm you confirm the diagnosis?

A. Rheumatology

Card 4

1. Systemic lupus erythematosus (SLE) is a multiorgan disease that most conumonly presents with joint pain and skin lesions. Nonspe-cåc symptoms such as weight loss, fever, and fatigue are common but ue not part of specmc diagnostic criteria_ Even without lab testing. this patient has four manifestations of SLE: arthralgia_ hematun-ia/ proteinun-ia_ serositis such as the chest pain, and a rash_ Four of eleven criteria are the standard for a diagnosis of SLE.

2. The full list of criteria is:

• Mdar rash

• Discoid rash

A. Rheumatology

- Photosensitivity
- Oral ulcers
- S erositis
- Renal disorder
- Leukopenia (642000M), lynphopenia (k l: 500RL)2 hemolytic anernia: or thrombocytopenia(<100
- Neurologic disorder
- Positive anti-DNA or anti-Sm or positive test for antiphospboüpid antibodies

A. Rheumatology

- Antinuclear antibodies in raised titer

Q. Rheumatology

A. Rheumatology

Card S

A woman comes to your offce because of substernal pain suggestive ofreflux disease and dysphagia_ She also cornplains of episodes of severe pain in ber fin-gees, associated with color changes. On physical exam, you note thickening ofthe skin and immob$ of the joints.

l. What is the most Ikely diagnosis?

2. What is the best initial test?

3. What is the most corm-non cause of death in this patient?

Card 5

1. Systemic sclerosis or scleroderma is characterized by thickening of the skin that leads to mmobility and pain in the joints.

Raynaud's phenomena is pain in die fingers with color changes from white to red and blue. Raynau&s phenomena is present in virtually all cases of scleroderma_ Esophageal disorders are common. This can be either reflux disease. dysphagia or both_ The

A. Rheumatology

CREST syndrome is calcinosis, Raynaud's, esophageal dysmotility, and telangiectasia_

2. There is no single diagnostic test for scleroderma_ The ANA is positive in 900 0 of cases or more. The anti-Scl-70 antibody is present in one-third of cases and is &ected against topoisomerase_

3. Sclerodennaresults in death from involvement of the heart, lung: and kidney_ Pulmonary fibrosis and puhnonary hypertension develop slowly over tin:ye_

Card 6

ff'%at is the "most likely diagnosis " when thefollowing additionalfeatures are described?

A woman comes in with months of fatigue, tiredness, and sleep disturbance_ She also complains of muscle pain. Headache and sleep distLWbance are present

1. Young woman With muscle tenderness in the neck and shoulders_ All tests are normal_ Eleven trigger points in the neck. shoulders, and hips are tender-

A. Rheumatology

2. Older woman with an elevated sedimentation rate and normal CPK_ She has temporal arteritis All syrnptoms respond to steroids_

3. Fatigue for longer than six months with normal tests. There are no physical findings.

Card 6

1. Fibromyalgia gives multiple trigger points of excessive tenderness in characteristic areas around the neck: trapezius, hips: and knees. All tests in fibromyalgia are normal. The patient is under 50. Pain is much more prominent than lassitude. Tricyclic antidepressants and exercise help.

2. Polymyalgia rheumatica (PNR) gives pain without trigger point tenderness. PNIR is older women and is associated with giant cell (temporal) arteritis_ The CPK is normal but the ESR is markedly elevated_ Normocytic anemia is often present_ There is an excellent response to steroids_

3. Chronic fatigue syndrome is defined as more than six months oftiredness_ It is often assoc.iated with headache, sleep disturbance, muscle and joint pain, and tender lymph nodes. There are no physical exarn or laboratory abnormalities. There is no proven therapy.

Q. Rheumatology

A. Rheumatology

Card 7

A man comes to the ernergency departrnent with the sudden onset of pain, redness, and swelling of a joint_

l. The pain occurs after alcohol binge-drinking_ The metatarsal phalangeal joint is involved_

2. The patient has a history of hemochroma-tosis or hyperparathyroidism. The knee is affected. What is the most accuate test for each of these?

Card 7

A. Rheumatology

1. Gout occurs most often in the first metatarsophalangeal (poda pa) joint_ It can occur after binge-drinking_ There is the rapid onset of severe pain, redness, and swelling. Aspiration of the joint is ü'le most accurate diagnostic test. Gout is from uric acid crystals_ which are needlelike. with strongly negative birefringence unda polarized light.

2. Pseudogout, or calcium pyrophosphate dihydrate (CPPD) deposition disease, is more common with hemochromatosis, hyperparathy-roidism, and acromegaly_ The knee is the most commonly affected joint_ CPPD crystals are rhomboid in shape, are and have weakly positive birefringence_

A. Rheumatology

Card 8

A man of Middle Eastern origin comes in with severe, recurrent oral lesions ofunclear etiology_ He also has genital lesions_ On he has uveitis and erythema nodosum-like lesions. He develops sterile skin abscesses whenever he has a needle stick_

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

3. What is the worst complication of the disease?

4. What is die treatnent?

5. What is "pathergy"?

Card 8

I. Beh!et's syndrome is an idiopathic disorder that occurs inpatients of Middle Eastern or Asian origin consisting of recurrent oral and genital lesions. Ocular lesions such as weitis, optic neuritis, or rethal vascuhtis 71<0 occur. Skin and joint lesions are frequent_

2. There is no specåc dagnostic test.

A. Rheumatology

3. The worst complication of disease is blindness. Neurologic involvement occms in 20% ofpatients_ This consists of chronic meuin-goencepbalitis and may lead to brain-stem lesions and psychiatric disturbance. Peripheral neuropathy is not a feature.

4. N'ffd Bebget's disease responds to colchicine- Severe disease is teated with steroids.

5. Pathergy Phenomenon (PP) is often used as criterion for Behqet s_ It refers to the hypersensitivity to needle sticks_

Q. Rheumatology

Card 9

A 12-year-old comes in withpain in multiple joints, fever, and a salmon-colored rash.

l. There is also splenomegaly, tender lymphadenopathy. and pericarditis_ 'The ESR is elevated. fridocyclitis develops later_ Joint fluid shows 8,000 white cens_

A. Rheumatology

2. The patient has a normocytic anemia, a profoundly low reticulocyte count, and giant pronormoblasts on the bone marrow_ Generalized flulike symptoms are also present.

Card 9

1. Juvenile rheumatoid arthritis (JRA) presents with high fever, multiple large-joint involvement, tender lymph nodes, splenomegaly, ud occasionany serositis such as pleuritis or pericarditis. Iridocyclitis is a complication of JRA that can lead to blindness_ A :rrNd1y elevated synovialfluid white-cen count is comrnon_

A. Rheumatology

2. Parvovirus BIY presents with a diffuse rash, flu.like symptoms, and an aplastic crisis. The aplastic crisis is more cormnon in those with a hemoglobinopathy such as sickle-cell disease_ Parvovirus can also present as an isolated rash known as erythema infectiosum, or Fifth disease. It looks like "slapped cheeks."

Q. Rheumatology

Card 10

A patient with a history of osteoarthritis comes in with pain in the back ofthe knee On examination, there is a palpable, fluidfilled mass in the back of the knee that is felt when the leg is fun extension.

L M•mat is the most diagnosis?

A. Rheumatology

2. What is the most accurate diagnostic test?

3. Iv%at is die best :ii1E treatment?

Card 10

1. A Baker's cyst is an outpocketing ofthe synovium ofthe Idlee that causes pain in the back of the knee. These cysts are often easy to diagnose bypalpation. When they rupture, pain extends into the cay and they mimic a deep venous thrombosis. They occur more often in patients with a history of arthritis.

2. E physical xamination, including transillumination, is not diagnostic, Baker' cyst is detected by sonography or MRI.

A. Rheumatology

3. Most Baker' s cysts do not need specific therapy. Severely symptomatic cysts can be treated with aspiration or steroid injection. Surgery is often not necessary.

Card 11

A 53 -year-old man has had several months of cough, shortness of breath, fever, and weight loss_ There is he-moptysis, joint pain, and sinusitis. Last month he had his first episode of otitis media his Ee. The chest x-ray shows a cavitation. The urinalysis shows red cells, red-cell casts, and protein_ is no response to antibiotics; and all sputum testing7 including tuberculosis: is repeatedly negative.

1. What is the most Nzely diagnosis?

A. Rheumatology

2. What features most clearly suggest the diagnosis?

3. What is the best initial test?

Card 11

L The most diagnosis is Wegener's granulomatosis_

2. Wegener's is characterized by upper and lower respiratory involvement as well as renal abnormalities such as hematuria andproteinun-ia_ The upper respiratory problems are sinusitis and otitis In addition, Wegener ^{7}s is a systemic vasculitis with involvement cfthe brain (stroke), skül (purpura/petechiae), eye (uveitis/iritis), GI u-act (bleeding), joint(pain). and neural tissue.

3. The best initial test is c-ANCA. The most accurate test is a biopsy of the organ. Chug-Strauss syndrome would have eosinophMa and asthrna_ Goodpastu:re 's syndrome would present only with lung and renal symptoms and would not affect the body diffusely: as does Wegener ^{7}s_

Q. Rheumatology

A. Rheumatology

Card 12

A woman comes in with several months of progressively worsening joint pain and swelling in more than three of the joints of her wrist and metacarpophalangeal joints. The pain improves over several hours as the day progresses. The x-ray of her hands is abnormal.

l. What is the most Ikely diagnosis?

2. What are the most conrnon extra articular manifestations?

3. What is the most specific diagnostic test?

A. Rheumatology

Card 12

l. Rheumatoid arthritis (R_A) is characterized by at least four of the fonowing:

- Morning stiffness for at least one hour and present for at least weeks
- Swelling of three or more joints for at least six weeks
- Swelling of wm-ist: metacarpophalangeal, or proximal h'lterphalan geal joints for at least six weeks
- Symmetric johlt swelling
- Hand x-ray changes typical of that must include erosions or unequivocal bony decalcification
- Rheunnatoid subcutaneous nodules

A. Rheumatology

- Positive rheumatoid factors

2. RA is 71<0 associated with pericarditis, lung nodules and effusion, anemia, vasculitis, and peripheral neuropathy.

3. The rhemnatoid factor is nonspecific_ The most specific blood test for RA is antibody to cyclic citrullinated peptide (specificity 95%).

A. Rheumatology

Card 13

A man comes in with pain in several large joints in an asymmetric distribution_ He has back pain, and his sacroiliac (SI) joint is involved.

antibodies. He has pain in dre knee and ankle as wen. His rheumatoid factor is negative but he is positive for HLÄ-B27

l. An adolescent with decreased lumbar spinal mobility and back pain. He also has weitis. X-ray shows that he has füsion of the SI ioint_

2. There is a nonspecåc urethritis, circinate balanitis, and conjunctivitis. A skil lesion known as keratoderma blennorrhagicum is present_

3. Psoriasis with nail pitting is present. The &stal interphalangeal joints are especiaLy affected.

Card 13

1. Al free of these cases are seronegative spondyloarthropathies_ The Theunnatoid factor is negative: and antibodies to HLAB27 are frequently present The fist case is aukylosing spondylitis, which presents a young man with back pain and

decreasing spinal flexibility. Exercise improves symptoms. Thirty percent have uve-itis and 3% have aortitis_ A fused SI joint on x-ray or VIRI is requked for the diagnosis

2. Reactive arthritis, or Reiter's syndrome. is a triad of nonspecfic urethritis, conjunctivitis, and asymmetric arthritis. Skin lesions are common.

3. Psoriatic arthritis occurs in 10% of those witll psoriasis_ Nail pitting is characteristic, as is involven•yent of the distal interphalangeal joints (DIPs)_ Rhetnnatoid arthritis does not give or DIP involvement

Q. Rheumatology

Card 14

A young Asian woman comes in with fever, fatigue, weight loss, arthralgias, and night sweats_ These synrptoms resolve_ She later has an episode of syncope and amaurosis fugax. Armpain is present on exertion. Pulses are &litished the upper extrernities.

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

A. Rheumatology

3. What is the best initial treatment?

Card 14

1. Takayasu's arteritis is an innarnmatory polyarteritis ofunclear etiology that occurs most often in Asian women before the age of SO. After an initial period of nonspecific inflammatory symptoms such as fever, fatigue, and weight loss, the patient develops an occlusive vasculitis of the aorta and subclaGan artery_ Lesions proximal to the branchg off of the vertebral artery result in retrograde flow from the brain. These "subclavian steal" symptoms may result in syncope and

transient ischemic attacks. Hypertension is present in 25%. Arm pain develops from vasctdar inståciency, as does &nitished and eventually absent pulses.

2. The most accurate test is to examine the vasculature by CT, MRI, or angiogram.

3. Corticosteroids improve symptoms_

Card 15

A. Rheumatology

A patient with a history of a connective tissue disease comes to see you because ofrecmrent episodes of pain in his external ears. Hearing is normal, but the cartilage of the ear is ree ü±ned, and deformed. He has recently developed the same problem in his nose_ Joint pain; hoarseness. and ocular symptoms are present as wen.

l. What is the most Ikely diagnosis?

2. What is the most dangerous complication of this disease?

3. What is the therapy?

Q. Rheumatology

Card 15

1. Relapsing polychondritis is an idiopathic inflammation of the cartilage of the ears, nose, larynx: and trachea_ The episodes are recurent and often occu in those with other connective tissue &sorders such as SLE or rheumatoid arthritis. The nose can become severely deformed_ Laryngeal involvement presents as hoarseness. Iritis is part of the syndrome_ After the acute attacks subside: the cartilage becomes deformed.

2. Some patients develop aortic root dilation and aortic regurgitation_

A. Rheumatology

3. Relapsing polychon&itis is treated with corticosteroids.

Card 16

A 53 -year-old man has had several months of cough, shortness of breath, fever, and weight loss_ There is hemoptysis_ The chest x-ray shows a cavitation. Urinalysis shows red cells, red-cell casts, and protein. There is no response to antibiotics, and all sputurn testing is negative repeatedly including tuberculosis _

Q. Rheumatology

l. Upper and lower respiratory tract involvement. There is also multiorgan invohrement such as joint, skhl, eye, CNS, and GI.

2. Eosinophilia and asthma with wheezing

3. Only lung and renal involvement; with no additional organs

Card 16

A. Rheumatology

1. Wegener' s granulomatosis is a systemic vasculitis with upper and lower respiratory tract involvement_ There is renal involvement as wen, but dlis is not unique. Wegener's also has joint pain, purpuic skhl lesions, iritis and weitis, GI lesions, stroke. and neurologic involveanent.

2. Churg-Strauss syndrome is 71<0 a systemic vasculitis but it is tmique in that it is characterized by eosinopbilia and asthma.

3. Goodpasture's syndrome is not a vasculitis_ Although there is lung and renal involvement: the disease is limited to these two organs only.

Q. Surgery

Card I

What is the "most likely diagnosis ' [r] when the following additional feat-mes are described?

A woman comes to the emergency departrnent with right lower quadrant abdominal pain. She has a temperature of 101F and an elevated white count of 14,000.

1. The pain started around the umbilicus and is worse on passive extension of the right leg

2. There is cervical motion tenderness on pelvic examination.

A. Surgery

Card I

A. Surgery

1. Appendicitis presents with periumbilical pain that progresses to pain at the right lower quadrant nidway between the umbüicus and the anterior superior niac spine ofthe hip (McBurney's point). There may alco be additional pain with passive extension of the right leg_ CT scanning can help confirm the diagnosis.

A. Surgery

2. Pelvic inflammatory disease (PID) salpingitis present with lower abdominal pain in women. Both of these are associated with cervical motion tenderness (CMT). Ectopic pregnancy can also lead to these findings.

A. Surgery

Card 2

A man is in the hospital several days after abdominal surgery _ He is nauseated with abdominal pain and is unable to tolerate feeding. He has not passed stool Of gas. He is bloated and there ue no bowel sounds on auscultation.

L M•mat is the most diagnosis?

Q. Surgery

2. What is the best initial test?

3. Iv%at is die therapy?

Card 2

A. Surgery

1. Adynamic ileus can occur with any form of abdominal surgery that penetrates the peritoneum. Normally: peristalsis should retun witlüi 24 hours. Prolonged üeus produces abdominal pain, bloating, absent bowel sounds, and the inability to pass gas or stool_

2. An abdominal x-ray will show multiple air/fluid levels.

Q. Surgery

3. There is no specific therapy to restore bowel Decompression of the stomach should be perfOrmed with nasogastric suction.

A. Surgery

Card 3

An elderly man comes to the etnergency deparment with left lower quadrant abdominal pain_

Q. Surgery

l. He has a fever and elevated white-cell count_ There is tenderness in the left lower quadrant The diagnosis is best made with CT scan.

2. He has rectal bleeding and the diagnosis is best made with colonoscopy_

A. Surgery

Card 3

1. Diverticulitis presents •with left lower quadrant abdominal pain and tenderness in an older person_ Because it is an ilfection- there is fever and leukocytosis. Because of an increased risk cfperforation with colonoscopy, die diagnosis is best made with CT scam Antibiotics such as ciprofloxacin and metronidazole are the standard of care_

Q. Surgery

2. Ischemic colitis is a type of chronic hltesthlal ischemia. It presents with pain and rectal bleeding. Colonoscopy best confirms the diagnosis. There is no specfic therapy.

A. Surgery

Card 4

An infant suffers nonbilious, projectile vomiting after ahnost every feeding He is dehydrated_ A firm, nonmo-bile, olivesized lesion is palpated in the abdomen. There ue fewer stools that ue smaller. A wavelike motion is visble on åe abdomen after eating Metabolic alkalosis is present.

l. What is the most Ikely diagnosis?

2. What is the most accurate diagnostic test?

3. What is the best therapy ?

Q. Surgery

Card 4

L Pyloric stenosis is an idiopathic narrowing of the pyloric sphincter of the stomach. An infant between two and eight weeks of age develops progressively worsening projectile vomiting. The stenotic sphincter may be palpable the abdomen, about the sanue size as an olive. After eatingö peristaltic waves may be visible on the abdomen. Dehydration and metabolic alkalosis may occur from vomiting_

2. The most accurate diagnostic test is first with an ultrasound7 and best with barium studies of the abdomen_

is the

A. Surgery

3. Surgical correction best åerapy with myotomy.

Card S

A 36-year-old man presents to the emergency departrnent with severe pain in the back ofhis lower leg from the heel to the back of the calf. This happened with a "popping sound" as he started a game of basketball, which he plays every few weeks. He has been on ciprofloxacin for the last six weeks for prostatitis_

l. What is the most Ikely diagnosis?

is the

Q. Surgery

2. What is the most corm-non cause?

3. What therapy?

is the

A. Surgery

Card 5

1. Achilles tendon rupture presents as a sudden "POW" or "snap" when starting to exercise or when vigorously dorsiflexing the foot. This is seen more often in those who engage in vigorous physical activity after prolonged periods of inactivity; particularly without adequate stretching as preparation_ There is severe pain in the back of the foot and up into the calf_

A. Surgery

2. Quinolones predispose to Achilles tendon rupture because of their abihty to inhibit chondroblasts and osteoblasts.

3. Surgical re-attachment is necessary

A. Toxicology

Card I

What is the "most likely diagnosis ' r in each of these cases ?

A man is brought to the anergency department because of intoxication. He is disoriented7 with an unsteady gait and an alcohol odor on his breath. He has a metabolic acidosis with respiratory alkalosis as compensation.

1. He has visual disturbance_ His retina is hyperemic on exanfilation_ The anion gap is elevated_

Q. Toxicolcwy

2. Envelope-shaped crystals are found on urinalysis. His serum calcium level is low. The anion gep is elevated.

3. His anion gap is normal_

Card I

1. Methanol intoxication is associated with an elevated anion gap metaboEc acidosis and intoxication. Methanol is metabolized to formic acid, which leads to optic nerve toxicity and visual disturbance.

A. Toxicology

2. Ethylene glycol intoxication results most often from the ingestion of antifreeze. It forms calcium oxalate crystals in the kidney, which appear as "envelopes" the uhue. The formation cfcalcium oxalate crystals results a low serum calcium level_ Botll methanol and ethylene glycol lead to an elevated anion gap_

3. Isopropyl alcohol is mbbing alcohol, higestion leads to a metabolic acidosis with a normal anion gap. osmolar gap is elevated in all t_lffee of these scenarios 7 indicating ingestion of an abnormal substance.

Q. Toxicolcwy

Card 2

A man is snowed-in during a storrn in Canada_ He has a wood-burning stove_ The patient and his fan$' have been having lightheadedness, fatigue, shortness of breath, and headaches. He feels better when he is shoveling snow.

L M•mat is the most diagnosis?

Q. Toxicolcwy

2. What is the most accurate diagnostic test?

3. Iv%at is die therapy?

A. Toxicology

Card 2

I. Carbon monoxide poisoning presents with lightheadedness, shortness of breath, headache, and fatigue_ When it is more severe, there wil be confusion and possibly chest pain. The nvo most important clues to answering the diagnosis question is eithe« a wood-burning stove in a contained area or a patient rescued from a burning building_ percent of deaths from fres on the first day are from smoke inhalation and carbon monoxide poisoning_

A. Toxicology

2. Carboxyhemoglobin levels are the most accurate diagnostic test_ The blood gas wpm show metabolic acidosis with respiratory alkalosis as rotnpensation.

3. The best therapy is 100% oxygen. Hyperbaric oxygen is the answer if there are cardiac or central nervous systern

Q. Toxicolcwy

Card 3

A man with a history of severe congestive heart failure is brought in because of confusion, blurry vision, vomiting, diarrhea, and color vision abnormalities. His potassium level is elevated. EKG shows ventricular ectopy and paroxysmal atrial tachycardia

A. Toxicology

l. What is the most Ikely diagnosis?
2. What is the treatment?

Card 3

Q. Toxicolcwy

1. Digoxin toxicity most commonly presents with gastrointestinal disturbance such as nausea: vomiting; and diarrhea_ Neurologic toxicity includes confusion, blury yellow halos around objects, and color vision misperception. Hyperkalemia occuws from inhibition of the sodiunn/potassiurn ATPase_ The earliest EKG abnormalities include atrial or ventricular ectopy _ Other abnormalities are bradycardia, AV block, ventricular tachycardia: and/or atrial tachycardia with variable block.

A. Toxicology

2. Treahnent for digoxin toxicity is with digoxin binding antibodies_ The strongest indication for digoxin binding antibodies is cardiac or CNS toxicity.

Q. Toxicolcwy

Card 4

A man who works in the demolition/construction business comes in with abdominal pain_ He has hypertension, anemia, and renal insufficiency. Physical exam shows foot drop. Peripheral smear shows basophilic stippling.

L M•mat is the most diagnosis?

A. Toxicology

2. What is the best initial test?

3. Iv%at is die best therapy?

Card 4

Q. Toxicolcwy

1. Lead poisoning in adults presents with abdominal pain or 'lead colic There is direct renal toxicity against the renal tubules. Lead blocks the production of heme, resulting in sideroblastic anemia nnd basophilic stippling on blood smear. Hypertension develops for unclear reasons_ Neurotoxicity takes the form ofwrist or foot drop_

2. The free erythrocyte protoporphyrin level is elevated. Lead level is the most accurate diagnostic test.

A. Toxicology

3. Treahnent is with chelating agents such as succimer, EDTA, or dimercaprol_ is an oral agent.

Card S

An elderly woman with osteoarthritis comes in with hyperventilation, tachy-cardia, and nausea. She also complains of tinnitus. Blood gas shows apH of 7.45, pCO of 22, md serun bicubonate of 14. Chest x-ray shows pulmonary edema.

Q. Toxicolcwy

Creatinine is elevated

l. Vehat is the most diagnosis?

2. What is the therapy?

A. Toxicology

Card 5

A. Toxicology

1. Salicylate toxicity presents with nausea: hyperventilation, tinnitus, and metabolic acidosis as well as a primary respiratory alkalosis. Aspirin is also renal-toxic both from &ect toxicity to the renal tubules and

from inhibition of the prostaglandins that the afferent arteriole_ Non-cardiogenic pulmonary edema may be visible on chest x-ray_

A. Toxicology

2. Alkalinization of the urine is performed in order to increase urinary excretion.

A. Toxicology

Card 6

A depressed patient comes in after a suicide attempt_ He is confused and disoriented_ He is unable to offer a coherent history - His mouth is dry, and there is urinary retention, dilated pupils, and decreased peristalsis.

L M•mat is the most diagnosis?

Q. Toxicolcwy

2. What is the most critical initial test?

3. Iv%at is die best iniüal thetepy?

Card 6

A. Toxicology

1. Tricyclic antidepressant overdose presents with signs of the anti-cholinergic effects ofthe medication_ Anticholinergic effects ue dry mouth, flushed skin, twitching muscle, dilated pupils, tachycardia, and diminished bowel sounds. Seizues
can occur.

2. The most ugent step is to do an EKG to check for the presence of widening of the QRS. Seizures and arrhythmias are the most connnon causes of death_

Q. Toxicolcwy

3. Treaunent for cardiac toxicity is with bicarbonate.

A. Toxicology

Card 7

A police offcer has just been evosed to a nerve-gas attack_ He comes in with excessive salivation, lacrimation, urination, and diarrhea. In addtion, there is wheezing and bradycardia.

Q. Toxicolcwy

L M•mat is the most diagnosis?

2. What is the best initial step in management?

Card 7

A. Toxicology

1. Organophosphate toxicity most conrnonly results from insecticide exposure_ In addition: it is the basis of nerve gas. Patients present with signs of acetylcholine toxicity such as salivation, lacrimation, urination, defecation, bronchospasm, and bradycardia_

Q. Toxicolcwy

2. Atropine is the most important initial step. In ad&on, it is important to remove the patient's clothing and wash him to decontaminate the skin. Pralidoxime is the specTc antidote to organophosphates.

Published by Kaplan PubYshing, a division of Kaplan, Inc.
1 Liberty Plaza. 24th Floor
New York, NY 10006

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October 2008

1098 765 43 2 1

elSBN:978-1 60714-192-1