

#1 (13088)

CORRECT: A

Meningocele are localized in the posterior mediastinal compartment. Morgagni hernias are characteristic for middle mediastinal compartment. Bochdalek hernia is localized in posterior mediastinal compartment. Lymphoma may be seen in all mediastinal compartments.

#2 (13089)

CORRECT: B

Meningocele are localized in the posterior mediastinal compartment. Morgagni hernias are characteristic for middle mediastinal compartment. Bochdalek hernia is localized in posterior mediastinal compartment. Lymphoma may be seen in all mediastinal compartments.

#3 (13090)

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#4 (13093)

CORRECT: E

Signs of nephritis usually appear 10 to 20 days after onset of the streptococcal infections. Nonstreptococcal, postinfectious glomerulonephritis has been described in association with pneumococcal pneumonia, bacterial endocarditis and acute viral infections such as hepatitis B, mumps, varicella, infectious mononucleosis, and others. Alport's syndrome, or hereditary nephritis, is a X-linked inheritance more common and more severe in males. Patients develop renal failure by age 20-30 years.

#5 (13098)

CORRECT: E

ECG refers to a syndrome of Torsades de pointes ("twisting of the points"). The syndrome may be either congenital or acquired. Acquired forms may be caused by any antiarrhythmic drug that prolongs the QT interval (for example quinidine, procainamide, disopyramide) or by psychoactive drugs such as phenothiazines and tricyclic antidepressants. In addition, potassium depletion, high doses of sotalol, liquid protein diet, and other metabolic abnormalities may be associated with the long QT syndrome.

#6 (13100)

CORRECT: B

Hemoperfusion is most beneficial in the removal of lipid soluble or highly protein-bound drugs (digoxin, glutethimide, ethchlorvynol, benzodiazepines, meprobamate, methaqualone, phenobarbital, theophylline). Hemodialysis is most efficacious in the removal of small molecular weight drugs or toxins that are water-soluble and not highly protein bound (aspirin, lithium carbonate, phenytoin, aminoglycosides, ethanol, methanol, ethylene glycol).

#7 (13101)

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Hemodialysis is most efficacious in the removal of small molecular weight drugs or toxins that are water-soluble and not highly protein bound (aspirin, lithium carbonate, phenytoin, aminoglycosides, ethanol, methanol, ethylene glycol). Hemoperfusion is most beneficial in the removal of lipid soluble or highly protein-bound drugs (digoxin, glutethimide, ethchlorvynol, benzodiazepines, meprobamate, methaqualone, phenobarbital, theophylline).

#8 (13108)

CORRECT: F

Prolactinomas are the most common type of pituitary tumors. Although most tumors are evident radiologically, especially with high-resolution CT and MRI imaging, some microadenomas may be too small to be detected. In general, basal prolactin levels reflect tumor size. Also, L-DOPA-inhibition or TRH-stimulation prolactin release can be helpful. IGF-I serum increased level is characteristic for acromegaly (GH cell adenoma).

#9 (13112)

CORRECT: E

The variety of chronic active hepatitis called lupoid hepatitis predominates in young females and is often accompanied by prominent extrahepatic manifestations, including amenorrhea, skin rashes, acne, vasculitis, thyroiditis, and Sjogren's syndrome. Antinuclear and other auto-antibodies may be found.

#10 (15542)

CORRECT: E

A variety of clinical disorders may be confused with orthostatic hypotension. Hypoglycemia with prominent autonomic symptoms preceding syncope. Aortic stenosis; related syncope is frequently exertional, while with orthostatic hypotension it may occur on arising or with exertion. Alcoholism and diabetes are usually considered to alter efferent autonomic function but may also damage afferent function mediated by cranial nerves IX and X. Shy-Drager syndrome or Multiple System Atrophy (MSA) - manifests both central and efferent abnormalities.

In addition to orthostatic hypotension, these patients demonstrate sphincter disturbances, parkinsonian features, anhidrosis and impotence, accompanied by corticospinal, corticobulbar, and cerebellar involvement. Differential diagnosis of orthostatic syncope should also include: micturitional syncope, postural arrhythmia, diffuse cerebrovascular disease, vasovagal syncope, epilepsy, catalepsy, carotid sinus hypersensitivity, atrial myxoma, neurological disorders, Parkinson's disease, and other brain lesions.

#11 (15543)

CORRECT: G

There is no disease process in which patient education and participation are more crucial than in the treatment of orthostatic hypotension, since it may become symptomatic at any moment when the patient is upright. Symptomatic worsening on arising in the morning will require many patients to sit on the edge of the bed for three to five minutes, and activate the pumping function of the leg muscle before arising.

A high-sodium diet may normalize or expand the plasma volume, since diminished adrenergic activity leads to diminished renin responsiveness and relative hypovolemia.

Florinef is the most consistently effective medication. It works by increasing plasma volume and the sensitivity of blood vessels to endogenous sympathetic stimulation, and modulates electrolyte/water shifts in the peripheral arterial walls leading to increased peripheral resistance. Blockade of b-adrenergically mediated vasodilation by propranolol leaves a-mediated vasoconstriction unopposed with a resultant increase in blood pressure. Clonidine, paradoxically, in patients with profoundly diminished peripheral sympathetic tone, effect mediated through venous α_2 -receptors with a resultant increase in blood pressure. Lysine vasopressin may raise blood pressure in dosages that do not usually adversely affect serum osmolality. The brief duration of action minimizes nocturnal hypertension.

#12 (15544)

CORRECT: E

Diseases characterized by proximal muscle weakness, such as myasthenia gravis, Eaton-Lambert syndrome (myasthenic syndrome), polymyositis, dermatomyositis, and polymyalgia rheumatica.

<u>Abnormality</u>	<u>Infectious Agent</u>
Complement Deficiencies (C6-C8) (C6-C8)	Neisseria Meningitidis
Splenectomy	Haemophilus influenzae Streptococcus pneumoniae Neisseria meningitidis
Sickle cell anemia	Streptococcus pneumoniae Haemophilus influenzae
Impaired cellular immunity	Listeria monocytogenes Cryptococcus neoformans Toxoplasma gondii Cytomegalovirus

NOTE:
Meningitis and Meningoencephalitis in the Immunocompromised Host

Question 13 and 14 both refer to the table on the left.

#13 (15546)
CORRECT: E

#14 (15548)
CORRECT: E

#15 (15553)

CORRECT: F

Major Etiological Agents in Acute Diarrheal Illnesses

Invasive/destructive pathogens	Noninvasive pathogens	Bacterial toxins (food poisoning)
Shigella Salmonella Campylobacter jejuni Vibrio parahaemolyticus Yersinia enterocolitica Clostridium difficile Rotavirus Other viruses Entamoeba histolytica	Escherichia coli Vibrio cholerae	Staphylococcus aureus Clostridium perfringens Bacillus cereus

#16 (15556)

CORRECT: F

Epidemiologic Characteristics of Common Invasive Enteric Pathogens

Shigella outbreaks occur in child-care centers or custodial institutions through person-to-person transmission. Salmonella survives dessication in processed dairy, poultry, and meat products; zoonosis. Campylobacter jejuni has a worldwide distribution and is transmitted in dairy products; zoonosis. Yersinia enterocolitica is occasionally transmitted in dairy products; zoonosis

Vibrio parahaemolyticus is transmitted by inadequately cooked shrimp and shellfish, found off of coastal salt waters. Clostridium difficile almost always follows antimicrobial therapy. Rotavirus has a worldwide distribution. Outbreaks are common among children although unusual and mild in adults. Norwalk virus follows a micro-epidemic pattern with no specific age predilection. Entamoeba histolytica has a person-to-person transmission and is very rare in the U S A, Canada, and Europe.

#17 (15560)

CORRECT: F

#18 (15561)

CORRECT: F

#19 (15562)

CORRECT: F

Severe nausea and vomiting in a patient with PUD suggests gastric outlet obstruction (occurs in about five percent of patients). Dehydration, metabolic alkalosis, hypokalemia and hypochloremia are determined in laboratory studies and they should be corrected. Chloride is always required in cases in which the hypokalemia is associated with metabolic alkalosis and ECF volume contraction. Many patients respond to medical management alone, but the problem tends to recur. Endoscopic dilatation or surgical intervention may be required.

Hypotonic hyponatremia can occur with advanced renal failure (with ECF volume ecesis), osmotic diuresis and salt-losing nephropathies (with decreased ECF volume), and primary polydipsia (with normal ECF volume).

#20 (15564)

CORRECT: A

Although right-sided lesions of the colon are usually associated with melena (dark, tarry stools) and left sided lesions are usually associated with hematochezia (the passage of bright red blood through rectum), the opposite situation can also be seen sometimes. Therefore the evaluation of a patient with hematochezia must include examination of the proximal colon.

#21 (15565)

CORRECT: B

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#24 (15568)

CORRECT: C

Although right-sided lesions of the colon are usually associated with melena (dark, tarry stools) and left sided lesions are usually associated with hematochezia (the passage of bright red blood through rectum), the opposite situation can also be seen sometimes. Therefore the evaluation of a patient with hematochezia must include examination of the proximal colon.

#25 (15572)

CORRECT: B

SIADH (syndrome of inappropriate antidiuretic secretion) is characterized by: hypotonic hyponatremia, less than maximally dilute urine (urine osmolality usually >100 mOsm/kg), elevated urine sodium (typically >20 mEq/L), clinical euvolemia, and normal renal, adrenal, and thyroid function. A low serum uric acid and BUN are commonly associated findings. The most common cancer associated with SIADH is small cell carcinoma of the lung. Although these patients are clinically euvolemic, this condition actually represents a state of free water excess.

Therapy is directed at decreasing total body water. Patients with diabetes insipidus tend to have a plasma sodium in the high normal range (140-145 mEq/L). However true hyponatremia may occur if there is inadequate access to free water or coexisting impairment of the thirst mechanism.

#26 (15573)

CORRECT: A

SIADH (syndrome of inappropriate antidiuretic secretion) is characterized by: hypotonic hyponatremia, less than maximally dilute urine (urine osmolality usually >100 mOsm/kg), elevated urine sodium (typically >20 mEq/L), clinical euvolemia, and normal renal, adrenal, and thyroid function. A low serum uric acid and BUN are commonly associated findings. The most common cancer associated with SIADH is small cell carcinoma of the lung. Although these patients are clinically euvolemic, this condition actually represents a state of free water excess.

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#27 (15574)

CORRECT: C

SIADH (syndrome of inappropriate antidiuretic secretion) is characterized by: hypotonic hyponatremia, less than maximally dilute urine (urine osmolality usually >100 mOsm/kg), elevated urine sodium (typically >20 mEq/L), clinical euvolemia, and normal renal, adrenal, and thyroid function. A low serum uric acid and BUN are commonly associated findings. The most common cancer associated with SIADH is small cell carcinoma of the lung. Although these patients are clinically euvolemic, this condition actually represents a state of free water excess.

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#29 (15579)

CORRECT: E

This patient presented with evidence of hepatic cirrhosis that dated back infancy, and with progressive dyspnea. The fact that the liver dysfunction began in infancy, and the absence of potentially toxic drug exposure (such as methotrexate), eliminate the possibility that the combined lung-liver dysfunction is drug-induced. Sarcoidosis is the disorder which may present with hepatosplenomegaly and changes in lungs, and the hepatic involvement may progress to end-stage cirrhosis. Sarcoidosis does affect children but the incidence in infancy is exceedingly rare. The most difficult differential in this case is between primary hepatic disease and alpha-1-antitrypsin deficiency. It is conceivable that this patient's dyspnea is the result of parenchymal shunts that occurred as a consequence of hepatic cirrhosis.

However, that the dyspnea is mainly a secondary manifestation of cirrhosis-induced vascular shunts, is untenable. The low alpha-1-antitrypsin level (normal 150 mg/dL) confirms the alpha-1-antitrypsin deficiency, as the primary process in this patient, which provides the explanation for the association between the dyspnea and cirrhosis. Alpha-1-antitrypsin deficiency may present with pulmonary, hepatic, or pancreatic manifestations. The dyspnea and pulmonary function studies in this patient were characteristic of emphysema. The chest X-ray abnormalities are characteristic of destructive lung disease with hyperlucent areas, flattened diaphragm, and an increased retrosternal air space.

The clinical hallmark of this disorder is the development of emphysema, which usually occurs in the second to third decade in smokers and the fourth to fifth decade in nonsmokers. Thus the role of cigarette smoking in this disease is a critical. It could make as much as a twenty year difference in life expectancy. The symptoms are chiefly the insidious onset of dyspnea on exertion. Cough is also frequent. Cause of gynecomastia in this patient is probably altered ratio of estrogens to androgens because of liver disease.

No specific medical therapy for the hepatic disease is available, but transplantation is curative. Protease inhibitors from medicinal leech and pneumococcus have been purified and characterized as potential agents. Bronchodilator therapy may be beneficial in 15 to 30 percent of patients who have concomitant reactive airway disease.

#30 (15581)

CORRECT: C

Intracerebral hemorrhage usually presents with the acute onset of focal neurologic deficits. Signs of sudden onset in intracranial pressure, severe headache, vomiting, and alteration in mental status are present when the hemorrhage is extensive. Chronic systemic hypertension is the most common cause. The locations of hypertensive intracranial hemorrhage are the basal ganglia (70%), pons (10%), cerebellum (10%), and cerebral white matter (10%).

Brain herniation and brainstem compression may occur as complications. Treatment consists of supportive care and correction of precipitating factors. Systemic blood pressure should be lowered gradually.

Subarachnoidal hemorrhage (SAH) can result from ruptured aneurysm, intracerebral hemorrhage, arteriovenous malformation, blood dyscrasia, head trauma, cocaine and amphetamine abuse, or tumor. Rupture of a saccular (berry) aneurysm, caused by defects in the arterial media and internal elastic membrane, is the most common cause.

Other types of aneurysm include the fusiform aneurysm, thought to be secondary to atherosclerosis, and the mycotic aneurysm, from septic embolism. Sudden onset of severe headache may be the only symptom of SAH. Fever, vomiting, nuchal rigidity, low back pain, focal neurologic deficits, seizures, retinal hemorrhages (subhyaloid hemorrhages), and alteration in mental status also occur. Complications include rebleeding, vasospasm with ischemia, hydrocephalus, seizures, and hyponatremia. The treatment of choice for saccular aneurysm is surgical repair. Hypotension must be avoided, only extreme elevations in blood pressure (diastolic >130 mm Hg) should be treated.

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#38 (15589)

CORRECT: E

In order of yield, the most useful tests are:

CT scan of abdomen - 94%

ERCP - 94%

Angiography - 90%

Ultrasound of abdomen - 80% (diagnostic yield)

MRI of abdomen and isotope scan - data not available.

#39 (15815)

CORRECT: E

Hypercalcemia shortens the QT interval, particularly the interval between the beginning of the QRS complex and the peak of the T-wave. At the level of K^+ 5.5 - 6.0 mEq/L, the electrocardiogram shows peaked T waves and a shortened QT interval. Other causes of shortened QT interval include digitalis.

#40 (15817)

CORRECT: E

The diagnosis of left anterior fascicular block requires the presence of a QRS of -60 to -90 degrees in frontal plane. A frontal QRS axis of +120 degrees is consistent with right axis deviation and is therefore not compatible with a diagnosis of left anterior fascicular block.

#41 (15819)

CORRECT: E

Patients with the history of oppressive or squeezing chest pains occurring at rest and associated with transient ST-segment elevations without evolution to myocardial infarction should be suspected of having Prinzmetal's angina or variant angina. Of all available provocative tests for coronary vasospasm, the ergonovine maleate test is the most sensitive and useful.

Acute episodes of coronary vasospasm generally respond to nitroglycerin. Long-acting nitrates or calcium channel antagonists have been shown to reduce the frequency of chest pain, when used for long-term treatment of Prinzmetal' angina.

#42 (15821)

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#43 (15835)

CORRECT: E

Characteristic presentation of adrenal cancer with feminization in men includes: gynecomastia, breast tenderness, areolar pigmentation, testicular atrophy, impotence, decreased libido, weakness and lethargy, sometimes palpable abdominal mass (tumor is usually large on presentation). Metastases are primarily to the liver, lungs and less frequently to bone, mediastinum and brain. Treatment includes surgery (including repeated surgery with recurrence), mitotane, and radiation.

Decreased libido and impotence are the major clinical presentation of hyperprolactinemia in men. Other clinical manifestations include: visual symptoms (visual field defect), galactorrhea, and gynecomastia.

Classical features of Klinefelter's syndrome (47XXY karyotype) are: small testes, azoospermia, gynecomastia, decreased signs of androgyny, and elevated gonadotropins.

Kartagener's syndrome includes: situs invertus, chronic sinusitis, bronchiectases, and infertility.

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#45 (15838)

CORRECT: E

An exceptional clinical presentation of patients with acute inferior wall myocardial infarction is that of epigastric pain associated with gastrointestinal symptoms. A less common clinical feature of acute inferior wall myocardial infarction is hiccapping, which may, at times, be intractable. These unique clinical manifestations of inferior wall myocardial infarction are thought to be related to increased vagal tone and irritation of the diaphragm by adjacent infarcted inferior wall.

#46 (15850)

CORRECT: E

Forty percent of the patients receiving human growth hormone do not have a hormone deficiency, but they receive this drug for other reasons, such as Turner syndrome or kidney insufficiency. The researchers also reported some benefit of growth hormone treatment in elderly patients.

#47 (15856)

CORRECT: E

You will begin rescue breathing with two slow, independent ventilations while maintaining an open airway. You should use 1-1.5 seconds to deliver breath. Continue rescue breathing at the rate of once every 5 seconds, for adults. This would produce 12 breaths per minute. Check the pulse once a minute to be sure that heart is still beating. Continue breathing as long as the breathing inadequacy persists.

Major Causes of Acute (<48 hours) Ophthalmoplegia	
Condition	Diagnostic Features
<u>BILATERAL</u>	
Botulism	Contaminated food, high altitude cooking, pupils involved
Myasthenia gravis	Fluctuating degree of paralysis, responds to edrophonium chloride IV
Wernicke's Encephalopathy	Nutritional deficiency, responds to thiamine IV
Acute cranial Polyneuropathy	Antecedent respiratory infection, elevated CSF protein
Brain Stem Stroke	Other brain stem signs
<u>UNILATERAL</u>	
Carotid-posterior communicating aneurysm	Third cranial nerve, pupil involved
Diabetic-idiopathic	Third or sixth cranial nerve, pupil spared
Myasthenia gravis	As above
Brain Stem Stroke	As Above

NOTE:

Question 48 and 49 refer to the table on the left

#48 (15858)

CORRECT: C

#49 (15859)

CORRECT: C