Rosh Family Medicine End of Rotation (EOR) Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. **What is the most likely diagnosis for a thin 45-year-old man with dyspnea and a low FEV1/FVC ratio?**
   - **A. Chronic Bronchitis**
   - **B. Asthma**
   - **C. Emphysema**
   - **D. Pneumonia**

2. **Which allele increases the risk of Stevens-Johnson syndrome when taking carbamazepine?**
   - **A. HLA-B*15:02**
   - **B. HLA-DRB1**
   - **C. HLA-A*02:01**
   - **D. HLA-C*06:02**

3. **A 52-year-old woman shows symptoms suggesting Addison's disease. What is the appropriate next diagnostic step?**
   - **A. Immediate hydration with saline**
   - **B. Hydrocortisone administration**
   - **C. Oral glucocorticoids**
   - **D. Insulin therapy**

4. **A recently imprisoned man presents with a pruritic rash. What is the most appropriate treatment?**
   - **A. Topical corticosteroids**
   - **B. Oral antihistamines**
   - **C. Permethrin**
   - **D. Antifungal cream**

5. **What is considered an intrinsic renal vascular cause of chronic kidney disease?**
   - **A. Diabetic nephropathy**
   - **B. Nephrosclerosis**
   - **C. Hypertensive nephropathy**
   - **D. Polycystic kidney disease**

6. What key physical exam finding is likely in a patient with Graves' disease?

A. Goiter with compressive symptoms

B. Raised, violaceous papules on the shins

C. Thinning hair

D. Exophthalmos

7. How many stages are there in the Hurley clinical staging system for hidradenitis suppurativa?

A. One

B. Two

C. Three

D. Four

8. What is the condition often diagnosed if a woman has elevated prolactin levels yet displays no signs of pregnancy?

A. Premature ovarian failure

B. Prolactinoma

C. Polycystic ovary syndrome

D. Uterine fibroids

9. Which medication for glaucoma should be avoided in patients with heart block?

A. Topical prostaglandins

B. Topical carbonic anhydrase inhibitors

C. Topical beta-blockers

D. Systemic beta-blockers

10. What sign is considered pathognomonic for pneumomediastinum?

A. Bradycardia

B. Hamman sign

C. Fremitus

D. Egophony

Answers

1. C
2. A
3. B
4. C
5. B
6. B
7. C
8. B
9. C
10. B

Explanations

1. What is the most likely diagnosis for a thin 45-year-old man with dyspnea and a low FEV1/FVC ratio?

A. Chronic Bronchitis

B. Asthma

C. Emphysema

D. Pneumonia

The most likely diagnosis for a thin 45-year-old man with dyspnea and a low FEV1/FVC ratio is emphysema. Emphysema is a type of chronic obstructive pulmonary disease (COPD) characterized by damage to the alveoli, leading to airflow limitation and respiratory symptoms. A low FEV1/FVC ratio is indicative of obstructive lung disease, which is consistent with emphysema. In this case, the patient's thin build is also a significant factor, as individuals with emphysema often present as thin due to the increased work of breathing and the metabolic demands associated with the disease. As emphysema progresses, patients may develop a "barrel chest," but in the early stages, particularly in younger patients, they may remain thin. The presence of dyspnea aligns with the common symptomatology of emphysema, which includes difficulty breathing, especially during exertion. Other conditions like chronic bronchitis may present with a cough and sputum production, and asthma typically has a more variable symptom pattern and can present with wheezing or chest tightness. Pneumonia, while able to cause dyspnea, would generally present with other signs such as fever, cough with sputum, and

2. Which allele increases the risk of Stevens-Johnson syndrome when taking carbamazepine?

A. HLA-B*15:02

B. HLA-DRB1

C. HLA-A*02:01

D. HLA-C*06:02

The correct answer is HLA-B*15:02, as this specific allele is strongly associated with an increased risk of developing Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis in individuals who are prescribed carbamazepine. HLA-B*15:02 is predominantly found in certain ethnic groups, most notably individuals of Asian descent, and its presence necessitates caution when considering treatment with carbamazepine due to the heightened risk of these severe skin reactions. When patients possess this allele, their immune response may be abnormally activated by the drug, leading to a hypersensitivity reaction that manifests as SJS, characterized by extensive skin blistering and detachment, along with mucosal involvement. Genetic testing for HLA-B*15:02 is recommended before starting carbamazepine in populations at risk to prevent these serious adverse reactions. In contrast to HLA-B*15:02, other alleles such as HLA-DRB1, HLA-A*02:01, and HLA-C*06:02 do not have the same established connection to carbamazepine-induced Stevens-Johnson syndrome. While they may be related to various other conditions or reactions, they lack the specific correlation that H

3. A 52-year-old woman shows symptoms suggesting Addison's disease. What is the appropriate next diagnostic step?

A. Immediate hydration with saline

B. Hydrocortisone administration

C. Oral glucocorticoids

D. Insulin therapy

In the case of a patient with symptoms suggestive of Addison's disease, the most appropriate next diagnostic step is to assess the adrenal function through the administration of hydrocortisone. Addison's disease, a primary adrenal insufficiency characterized by insufficient production of adrenal hormones (cortisol and often aldosterone), requires immediate attention to prevent adrenal crises and stabilize the patient. Hydrocortisone is a synthetic corticosteroid that mimics the effects of cortisol, the hormone that is deficient in Addison's disease. Administering hydrocortisone not only helps manage the patient's current symptoms—including fatigue, weight loss, and hypotension—but also serves as a therapeutic measure to prevent complications associated with adrenal insufficiency, such as an adrenal crisis. This crisis can occur if a person with undiagnosed or untreated Addison's disease is subjected to stress, illness, or surgery. While hydration with saline can be necessary for a patient in adrenal crisis, the immediate provision of glucocorticoids like hydrocortisone is critical to directly address the underlying hormone deficiency and stabilize the patient. Oral glucocorticoids are typically used for long-term management once Addison's disease is confirmed and the patient is stable, while insulin therapy is unrelated to the management of adrenal

4. A recently imprisoned man presents with a pruritic rash. What is the most appropriate treatment?

A. Topical corticosteroids

B. Oral antihistamines

C. Permethrin

D. Antifungal cream

In the context of a recently imprisoned man presenting with a pruritic rash, the choice of treatment is most appropriate when considering the possibility of a scabies infestation, which is common in crowded environments. Permethrin is a topical scabicidal agent that is effective in treating scabies. It works by killing the mites and their eggs, addressing the root cause of the itching and rash. Topical corticosteroids, while they can be effective for various dermatological conditions, primarily serve to reduce inflammation and pruritus, rather than treating an underlying infestation. Oral antihistamines may alleviate itching but do not address the cause of the rash. Antifungal creams are indicated for fungal skin infections and would not be effective in a case of scabies. Thus, the selection of permethrin is appropriate as it directly targets the condition likely causing the pruritic rash in this scenario.

5. What is considered an intrinsic renal vascular cause of chronic kidney disease?

A. Diabetic nephropathy

B. Nephrosclerosis

C. Hypertensive nephropathy

D. Polycystic kidney disease

Nephrosclerosis is recognized as an intrinsic renal vascular cause of chronic kidney disease because it specifically involves pathology within the renal vasculature itself. This condition is usually a result of chronic hypertension or other vascular diseases that lead to sclerosis of the renal arterioles, impacting blood flow and thus impairing kidney function. The process of nephrosclerosis entails thickening and narrowing of blood vessels, leading to ischemia and subsequent renal tissue damage, which contributes to the overall decline in kidney function associated with chronic kidney disease. In contrast, conditions like diabetic nephropathy and hypertensive nephropathy often result from systemic processes affecting the kidney rather than intrinsic changes purely within the vascular structures. Polycystic kidney disease is a genetic disorder characterized by fluid-filled cysts developing in the kidneys, which leads to renal enlargement and dysfunction but does not primarily involve vascular changes of the same nature as those seen in nephrosclerosis. This distinction is key in identifying nephrosclerosis as primarily a consequence of intrinsic renal vascular changes that lead to chronic kidney disease.

6. What key physical exam finding is likely in a patient with Graves' disease?

A. Goiter with compressive symptoms

B. Raised, violaceous papules on the shins

C. Thinning hair

D. Exophthalmos

In the context of Graves' disease, the most significant physical exam finding is exophthalmos, which is the protrusion of the eyes. This condition is a result of hyperthyroidism and is particularly associated with Graves' disease due to the infiltration of the retro-orbital space by glycosaminoglycans, leading to an increase in orbital volume and pressure. Exophthalmos occurs in a significant number of patients with Graves' disease and can lead to symptoms such as ocular discomfort, diplopia, and in severe cases, vision loss. This physical exam finding is distinctive to Graves' disease and is a hallmark of the condition that differentiates it from other forms of hyperthyroidism. While a goiter may be present and can sometimes lead to compressive symptoms, as well as other systemic effects like thinning hair, the defining characteristic of Graves' disease in a physical examination context is the presence of exophthalmos, making it the correct answer. The raised, violaceous papules on the shins are more closely associated with conditions like necrobiosis lipoidica or even diabetic dermopathy, rather than with Graves' disease. Thus, recognizing exophthalmos as a key physical exam finding is crucial for understanding

7. How many stages are there in the Hurley clinical staging system for hidradenitis suppurativa?

A. One

B. Two

C. Three

D. Four

The Hurley clinical staging system for hidradenitis suppurativa categorizes the condition into three distinct stages, which helps guide treatment options and manage patient expectations. In the first stage, patients may experience solitary or multiple abscesses in the axillary, groin, or perineal areas but with no scarring or sinus tracts. The second stage features recurrent abscess formation, and in this stage, the presence of sinus tracts and scarring becomes evident. The third stage indicates a more advanced form of the disease, where there are widespread lesions and significant scarring, with interconnected sinus tracts. Understanding these stages is crucial for evaluating the severity of hidradenitis suppurativa and selecting appropriate therapeutic interventions. Each stage reflects the progression of the disease and highlights the potential for complications, which assists healthcare providers in tailoring the management plan to the individual's specific needs.

8. What is the condition often diagnosed if a woman has elevated prolactin levels yet displays no signs of pregnancy?

A. Premature ovarian failure

B. Prolactinoma

C. Polycystic ovary syndrome

D. Uterine fibroids

When a woman presents with elevated prolactin levels and does not exhibit signs of pregnancy, the most likely diagnosis is a prolactinoma. A prolactinoma is a benign tumor of the pituitary gland that secretes excess prolactin. High levels of prolactin can lead to various symptoms, including menstrual irregularities and galactorrhea (milk production). It is important to note that while conditions like premature ovarian failure, polycystic ovary syndrome, and uterine fibroids can cause reproductive issues or hormonal imbalances, they do not typically lead to isolated elevated prolactin levels without other accompanying symptoms. For instance, premature ovarian failure is associated with low estrogen levels and does not specifically cause elevated prolactin unless there are other factors at play. Polycystic ovary syndrome often presents with a combination of symptoms such as hirsutism and metabolic issues, and while it can involve elevated prolactin, it usually does not lead to isolated significant elevations. Uterine fibroids primarily refer to noncancerous growths in the uterus and are not directly related to prolactin secretion. Hence, the elevated prolactin levels, particularly in the absence of pregnancy, point directly to prolactinoma

9. Which medication for glaucoma should be avoided in patients with heart block?

A. Topical prostaglandins

B. Topical carbonic anhydrase inhibitors

C. Topical beta-blockers

D. Systemic beta-blockers

Topical beta-blockers are commonly used in the management of glaucoma to reduce intraocular pressure. However, these medications can have systemic effects, particularly on the cardiovascular system. Patients with pre-existing cardiac conditions, such as heart block, may experience exacerbation of their condition if topical beta-blockers are used, as these medications can decrease heart rate and potentially worsen conduction abnormalities. In patients with heart block, the use of medications that affect heart rate and conduction can lead to significant complications, including further worsening of the block, bradycardia, or even cardiac arrest. Therefore, it is crucial to avoid topical beta-blockers in these patients to prevent potential adverse cardiovascular events. In contrast, other classes of glaucoma medications, such as topical prostaglandins and topical carbonic anhydrase inhibitors, do not have similar cardiovascular effects and can be safely used in patients with heart block. Systemic beta-blockers also pose risks due to their systemic effects on the heart, but topical formulations should also be approached with caution in this patient population.

10. What sign is considered pathognomonic for pneumomediastinum?

A. Bradycardia

B. Hamman sign

C. Fremitus

D. Egophony

The Hamman sign is indicative of pneumomediastinum and is characterized by a distinctive crepitant sound that can be heard over the heart or in the neck when the patient is auscultated. This sign results from the presence of air in the mediastinum, which can cause a crunching or cracking sound with each heartbeat, especially when the patient is in a recumbent position. The presence of this unique sound provides significant diagnostic value, as it reflects the specific pathology of air accumulation in the mediastinal space. In comparison, other options such as bradycardia are not specific to pneumomediastinum; instead, they could suggest various other conditions or physiological responses not related to mediastinal air. Fremitus and egophony involve changes in lung or pleural sounds that may be seen in conditions like pneumonia or pleural effusion but do not directly indicate the presence of air in the mediastinum. Thus, the Hamman sign stands out as a pathognomonic sign for pneumomediastinum, helping to distinguish this condition from other respiratory or cardiac issues.