COMAT Surgery Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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Questions

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1. Before performing a skin graft, what condition must be ensured for the burn area?

- **A. It must be moisturized sufficiently.**
- **B. It should be debrided and free of hematoma, exudate, or infection.**
- **C. It should be treated with antibiotic ointments.**
- **D. It must be bandaged to prevent further injury.**

2. What type of surgical intervention may be considered for the treatment of invasive ductal carcinoma?

- **A. Only mastectomy**
- **B. Breast conserving therapy or mastectomy with lymphadenectomy**
- **C. Radiation therapy only**
- **D. Only surgical biopsy**

3. What laboratory test should be performed for suspected bladder injury in blunt trauma?

- **A. Urinalysis**
- **B. Complete blood count**
- **C. Liver function tests**
- **D. Coagulation profile**

4. What condition is CT commonly used to evaluate?

- **A. Esophageal pathology**
- **B. Appendicitis and diverticulitis**
- **C. Contaminated wounds**
- **D. Colon cancer**

5. What are the classic signs of compartment syndrome?

- **A. Pain, paresthesias, pallor, paralysis, and pulselessness**
- **B. Swelling, heat, redness, and pain on touch**
- **C. Joint stiffness and swelling**
- **D. Localized numbness and tingling**

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6. What type of burn is characterized by erythema and only lasting a few days?

- **A. Fourth degree burns**
- **B. Deep partial burns**
- **C. Epidermal burns**
- **D. Full thickness burns**

7. What are common symptoms of ovarian torsion?

- **A. Constant, mild pain only**
- **B. Sudden onset of severe cramping pain and nausea/vomiting**
- **C. Localized tenderness without nausea**
- **D. Pain during ovulation only**

8. What is one common trigger for paralytic ileus?

- **A. Severe dehydration**
- **B. Abdominal surgery**
- **C. Excessive physical activity**
- **D. Chronic infections**

9. Which anemias are considered indications for splenectomy?

- **A. Sickle cell anemia, medullary fibrosis, and autoimmune hemolytic anemia**
- **B. Iron-deficiency anemia only**
- **C. Vitamin B12 deficiency anemia**
- **D. Chronic disease anemia only**

10. What type of epithelial change occurs in Barrett's esophagus?

- **A. Transition to stratified squamous epithelium**
- **B. Columnar epithelium metaplasia**
- **C. Hyperplasia of squamous epithelium**
- **D. Desquamation of lamina propria**

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Answers

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

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Explanations

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1. Before performing a skin graft, what condition must be ensured for the burn area?

A. It must be moisturized sufficiently.

B. It should be debrided and free of hematoma, exudate, or infection.

C. It should be treated with antibiotic ointments.

D. It must be bandaged to prevent further injury.

Before performing a skin graft, it is essential that the burn area is properly prepared to maximize the chance of successful graft incorporation and healing. Ensuring that the area is debrided and free of hematoma, exudate, or infection is crucial. Debridement removes non-viable tissue that can impede the graft's attachment and integration. If there is any remaining debris, it can create a barrier that prevents the graft from adhering and can promote infection. The presence of a hematoma can also negatively impact the blood supply to the graft, leading to complications. Exudate signifies that there is fluid accumulation, which may be due to ongoing inflammation or infection, both of which hinder the healing process. Additionally, any infection present in the area poses a significant risk as it can lead to increased complications and graft failure. In summary, achieving a clean, well-prepared wound bed is critical for the success of skin grafting, ensuring that the area is optimal for healing and minimizes the risk of graft complications. This careful preparation lays the foundation for proper graft integration and ultimately promotes effective recovery for the patient.

2. What type of surgical intervention may be considered for the treatment of invasive ductal carcinoma?

A. Only mastectomy

B. Breast conserving therapy or mastectomy with lymphadenectomy

C. Radiation therapy only

D. Only surgical biopsy

For the treatment of invasive ductal carcinoma, the most appropriate surgical intervention is breast-conserving therapy or mastectomy with lymphadenectomy. Breast-conserving therapy typically involves a lumpectomy, which removes the tumor along with a margin of surrounding tissue, and is often followed by radiation therapy. This approach is suitable when the cancer is detected early and has not spread extensively, allowing for a maximally effective treatment while preserving the breast's appearance. In cases where the cancer is more extensive or when patient preference dictates, a mastectomy, which involves the removal of one or both breasts, might be performed. This option is sometimes accompanied by lymphadenectomy, where lymph nodes are also removed and examined to assess the extent of cancer spread. Combining these surgical interventions ensures that invasive ductal carcinoma is treated effectively while also considering the individual's circumstances and preferences. Other options such as radiation therapy as a standalone treatment, or invasive procedures such as exclusive surgical biopsy, do not adequately address the need for definitive management of the cancer itself and typically serve different roles in the overall treatment pathway.

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3. What laboratory test should be performed for suspected bladder injury in blunt trauma?

A. Urinalysis

B. Complete blood count

C. Liver function tests

D. Coagulation profile

In the context of suspected bladder injury resulting from blunt trauma, a urinalysis is the most relevant laboratory test to perform. When there is concern for potential bladder damage, analyzing the urine can provide critical information about the state of the bladder and the possibility of injury. One of the primary objectives of performing a urinalysis in this scenario is to detect the presence of blood (hematuria) in the urine, which is a common indicator of an injury to the urinary tract, including the bladder. If the bladder is injured, blood may be present in the urine due to the disruption of blood vessels within or around the bladder. This information can help guide further management, which could include imaging studies like a CT scan or cystography to confirm the diagnosis of bladder injury. Other tests, such as a complete blood count, liver function tests, and coagulation profile, are less specific for bladder injuries and would not provide immediate information about bladder integrity. While they might be necessary in the assessment of overall trauma or in managing other potential injuries, they do not directly address suspected bladder trauma. Thus, a urinalysis is the most pertinent test in this situation for evaluating potential bladder injury.

4. What condition is CT commonly used to evaluate?

A. Esophageal pathology

B. Appendicitis and diverticulitis

C. Contaminated wounds

D. Colon cancer

CT, or computed tomography, is particularly effective in evaluating conditions that involve acute abdominal pain, such as appendicitis and diverticulitis. The use of CT in these scenarios is well-established due to its ability to provide high-resolution images of the abdomen. This imaging modality can quickly identify the presence of an inflamed appendix or diverticula, the presence of complications such as abscess formation, and other related issues that might require surgical intervention. In the case of appendicitis, CT scans help visualize the inflammatory changes in the appendix and surrounding structures, which can confirm or rule out the diagnosis effectively, especially in atypical presentations. For diverticulitis, CT imaging can show diverticula, inflammatory changes, and possible complications, making it an invaluable diagnostic tool in acute settings. While CT can certainly be useful in evaluating esophageal pathology and colon cancer, these conditions often have other preferred imaging modalities. For example, barium swallow studies or endoscopy are more commonly used for esophageal issues, and colonoscopy is typically the first choice for colon cancer screening and diagnosis. Contaminated wounds may require other forms of assessment, like physical examination or ultrasound, to evaluate the extent of soft tissue injury or foreign body presence. Thus, the particular strength of CT

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5. What are the classic signs of compartment syndrome?

A. Pain, paresthesias, pallor, paralysis, and pulselessness

B. Swelling, heat, redness, and pain on touch

C. Joint stiffness and swelling

D. Localized numbness and tingling

The classic signs of compartment syndrome are pain, paresthesias, pallor, paralysis, and pulselessness. Pain is often the first and most prominent symptom, typically described as severe and out of proportion to the injury, which raises suspicion for compartment syndrome. Paresthesias refer to abnormal sensations like tingling or "pins and needles," which can be indicative of nerve involvement due to increased pressure within the compartment. Pallor, the pale appearance of the skin, can occur because of decreased blood flow. Paralysis may develop as a result of nerve compression, leading to weakness in the affected muscles. Finally, pulselessness suggests that arterial blood flow has been compromised due to the elevated interstitial pressure. This combination of symptoms is critical for recognizing compartment syndrome, which requires prompt intervention to prevent irreversible damage to muscles and nerves. Other options presented do not encapsulate the triad of symptoms associated with this condition.

6. What type of burn is characterized by erythema and only lasting a few days?

A. Fourth degree burns

B. Deep partial burns

C. Epidermal burns

D. Full thickness burns

Epidermal burns, also known as first-degree burns, are characterized by erythema (redness) of the skin without the formation of blisters or deeper tissue damage. These burns typically involve only the outermost layer of the skin, the epidermis, and they generally heal within a few days with proper care. The pain associated with epidermal burns can vary from mild to moderate, but since the main layer affected is the epidermis, the healing process is quick and usually results in minimal to no scarring. Understanding the nature of the other types of burns can help clarify why epidermal burns are distinct. Fourth-degree burns penetrate through the skin and damage underlying tissues, leading to much more severe outcomes. Deep partial burns and full thickness burns involve deeper layers of the skin and often require more extensive treatment and longer healing times, making them quite different from the brief and uncomplicated healing associated with epidermal burns.

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7. What are common symptoms of ovarian torsion?

A. Constant, mild pain only

B. Sudden onset of severe cramping pain and nausea/vomiting

C. Localized tenderness without nausea

D. Pain during ovulation only

Ovarian torsion is characterized by a sudden onset of severe cramping pain and is often accompanied by nausea and vomiting. This occurs as the blood supply to the ovaries is compromised, leading to intense pain that typically arises abruptly. The pain is usually unilateral and may be associated with other signs of distress, such as nausea and vomiting, reflecting the serious nature of the condition and the body's response to acute pelvic pain. The sudden onset of severe symptoms differentiates ovarian torsion from other conditions that may cause abdominal or pelvic pain, as they typically do not present with such extreme abruptness or the combination of symptoms seen in torsion. The presence of nausea and vomiting further reinforces the likelihood of an acute abdomen event, which is critical for timely diagnosis and intervention. Timely treatment is essential to prevent complications, including loss of ovarian function.

8. What is one common trigger for paralytic ileus?

A. Severe dehydration

B. Abdominal surgery

C. Excessive physical activity

D. Chronic infections

Paralytic ileus is a condition characterized by an absence of peristalsis in the intestines, which can lead to bowel obstruction despite the absence of a physical blockage. One of the most common triggers for this condition is abdominal surgery. After surgical procedures, especially those involving the abdomen, the risk of developing paralytic ileus increases due to a variety of factors. The manipulation of the intestines during surgery can disrupt normal motility and activate the body's stress response, leading to reduced gut activity. Moreover, the use of anesthesia and medications such as opioids can also significantly impair bowel function post-surgery. This suppression of peristalsis can be compounded by other factors such as electrolyte imbalance or the post-operative state of the patient, which further predispose them to this condition. While severe dehydration, excessive physical activity, and chronic infections can impact intestinal motility and function, they are not as directly linked to the development of paralytic ileus as abdominal surgery is. Therefore, abdominal surgery is recognized as a primary trigger for this postoperative complication.

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9. Which anemias are considered indications for splenectomy?

A. Sickle cell anemia, medullary fibrosis, and autoimmune hemolytic anemia

B. Iron-deficiency anemia only

C. Vitamin B12 deficiency anemia

D. Chronic disease anemia only

Splenectomy, the surgical removal of the spleen, can be indicated in specific types of anemia where the spleen plays a pivotal role in the pathophysiology of the condition. Sickle cell anemia, medullary fibrosis, and autoimmune hemolytic anemia are conditions where splenectomy can be beneficial. In sickle cell anemia, the spleen often becomes dysfunctional due to repeated vaso-occlusive crises and splenic sequestration of sickled cells. This can lead to an increased risk of infections and other complications. Removing the spleen can improve the patient's immunity and reduce some complications associated with the disease. In autoimmune hemolytic anemia, the spleen is responsible for the destruction of antibody-coated red blood cells. Splenectomy may help increase red blood cell survival and alleviate the anemia by removing the organ involved in the immune-mediated destruction of these cells. In conditions like medullary fibrosis, where marrow function is compromised and the spleen may become involved in extramedullary hematopoiesis, splenectomy can help relieve symptoms and improve blood counts. On the other hand, iron-deficiency anemia, vitamin B12 deficiency anemia, and anemia of chronic disease primarily stem from deficiencies or chronic illnesses affecting red blood cell production

10. What type of epithelial change occurs in Barrett's esophagus?

A. Transition to stratified squamous epithelium

B. Columnar epithelium metaplasia

C. Hyperplasia of squamous epithelium

D. Desquamation of lamina propria

In Barrett's esophagus, the primary change that occurs is the metaplasia of the normal stratified squamous epithelium of the esophagus to a columnar epithelium. This transformation typically occurs as a response to chronic gastroesophageal reflux disease (GERD), where the acidic gastric contents repeatedly irritate the esophageal lining. The metaplastic process allows the esophagus to better withstand the acidic environment by replacing the squamous cells, which are more sensitive to acidic damage, with columnar cells that can better tolerate the harsh conditions. This change is significant because it increases the risk of developing esophageal adenocarcinoma, making monitoring patients with Barrett's esophagus crucial. Considering the other options, the transition to stratified squamous epithelium would not apply here, as Barrett's esophagus is characterized by a loss of squamous epithelium. Hyperplasia of squamous epithelium refers to an increase in the number of squamous cells but does not explain the metaplastic change seen in Barrett's. Desquamation of the lamina propria does not pertain to the epithelial transformation that defines Barrett's esophagus. Therefore, columnar epithelium metaplas

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