Oral and Maxillofacial Surgery (OMFS) Board Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. Which inhalation agent should not be used on children?

A. Desflurane

B. Halothane

C. Isoflurane

D. Sevoflurane

2. What type of tumor is characterized by the presence of Antoni A and Antoni B lines, and Verocay bodies?

A. Osteosarcoma

B. Schwannoma

C. Fibroma

D. Ewing sarcoma

3. What is the most common reason for impacted wisdom teeth?

A. Genetic factors

B. Changes in diet

C. Poor oral hygiene

D. Age-related dental changes

4. What could lead to a facial nerve palsy after an inferior alveolar nerve (IAN) block?

A. Injection too far anterior

B. Injection too far posterior and lateral

C. Injection at the wrong site

D. Use of too much anesthesia

5. What is the most common long-term complication associated with costochondral grafts?

A. Infection

B. Asymmetric growth

C. Implant failure

D. Bone resorption

6. What is the onset time for the action of Pradaxa?

A. Immediate

B. Within hours

C. 24 hours

D. Several days

7. What can result from improper management of periorbital injuries?

A. Decreased visual acuity

B. Increased malocclusion

C. Chronic pain

D. All of the above

8. How much lingual bone is typically required around an implant?

A. 0.5 mm

B. 1 mm

C. 2 mm

D. 3 mm

9. What is recommended for fluid replacement therapy in cases of severe hemorrhagic shock?

A. Crystalloid solutions

B. Isotonic saline

C. Blood products

D. Electrolyte solutions

10. What is the purpose of subdermal fat grafting during a parotidectomy?

A. To repair nerve damage

B. To enhance cosmetic appearance

C. To prevent Frey's syndrome

D. To promote healing of tissue

Answers

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

Explanations

1. Which inhalation agent should not be used on children?

A. Desflurane

B. Halothane

C. Isoflurane

D. Sevoflurane

Desflurane is generally not recommended for use in children primarily due to its pungent odor and irritating properties, which can lead to adverse respiratory effects. Inhalation agents, especially in the pediatric population, should ideally have a pleasant smell to facilitate ease of induction. Desflurane's characteristics may cause coughing, breathholding, or even laryngospasm in children, making it less suitable for this demographic. In contrast, agents like halothane, isoflurane, and sevoflurane are more commonly used in pediatric anesthetic practice. Halothane, although less frequently used now, has a smoother induction profile. Isoflurane is also considered safe for children, while sevoflurane is particularly favored due to its non-irritating qualities and favorable pharmacokinetics, leading to rapid induction and recovery times without significant respiratory irritation. The preference for sevoflurane in pediatric cases is due to its low blood/gas solubility and pleasant odor, making it a suitable choice for inducing anesthesia in children.

2. What type of tumor is characterized by the presence of Antoni A and Antoni B lines, and Verocay bodies?

A. Osteosarcoma

B. Schwannoma

C. Fibroma

D. Ewing sarcoma

The tumor characterized by the presence of Antoni A and Antoni B patterns, as well as Verocay bodies, is indeed a Schwannoma. Schwannomas, also known as neurilemomas, are benign tumors that arise from Schwann cells, which are responsible for the myelination of peripheral nerves. Antoni A tissue is characterized by highly cellular areas with a compact arrangement of Schwann cells, often forming Verocay bodies, which are palisaded arrangements of nuclei around an acellular zone. In contrast, Antoni B tissue is less cellular and features a more loosely organized histological appearance, containing more myxoid or cystic change. Identifying the presence of these specific histological features is critical for diagnosing Schwannomas in tissue samples. This knowledge helps differentiate Schwannomas from other tumors, like osteosarcoma, fibroma, or Ewing sarcoma, which do not exhibit the same distinct histological characteristics associated with Schwann cell tumors.

3. What is the most common reason for impacted wisdom teeth?

A. Genetic factors

B. Changes in diet

C. Poor oral hygiene

D. Age-related dental changes

The most common reason for impacted wisdom teeth is closely linked to genetic factors. When considering the development of the jaw and the overall dental arch size, genetic predispositions play a significant role. Many individuals have jaws that are not large enough to accommodate the third molars, leading to impaction. The evolution of human diets, which has shifted from tougher, abrasive foods to softer, more processed options, has also influenced jaw development. However, this is not the primary cause of impacted wisdom teeth. While dietary changes may contribute to smaller jaw sizes over generations, the genetic aspect remains dominant in determining whether an individual will experience impaction. Poor oral hygiene can lead to various dental issues but is not a direct cause of wisdom teeth impaction. Similarly, age-related dental changes are more associated with the eruption patterns of teeth rather than their ability to erupt correctly in the case of wisdom teeth. Understanding the interplay between genetic predispositions and jaw development is essential in recognizing the leading cause of impacted wisdom teeth.

4. What could lead to a facial nerve palsy after an inferior alveolar nerve (IAN) block?

A. Injection too far anterior

B. Injection too far posterior and lateral

C. Injection at the wrong site

D. Use of too much anesthesia

Facial nerve palsy can occur as a complication of an inferior alveolar nerve block due to the anatomical proximity of the facial nerve to the injection site. Specifically, an injection that is placed too far posterior and lateral can inadvertently introduce local anesthetic into areas that affect the facial nerve. This area is close to the mandibular condyle and the structures surrounding it, which are relevant in considering the pathway of the facial nerve. When the inferior alveolar block is performed, the goal is to anesthetize the inferior alveolar nerve as it enters the mandibular canal. However, if the needle is positioned posteriorly and laterally, especially near the parotid gland where the facial nerve runs, it increases the risk of affecting the facial nerve branches. This misdirection can lead to temporary paralysis of the muscles of facial expression, which is characterized by facial nerve palsy. The other choices don't present the same risk factors that would directly impact the facial nerve. For instance, injections too far anterior are less likely to affect the facial nerve, as they are more distant from its course. Injection at the wrong site may refer to targeting other nerves or locations, but the anatomical implications are primarily tied to the positioning of the needle relative to the facial nerve.

5. What is the most common long-term complication associated with costochondral grafts?

A. Infection

B. Asymmetric growth

C. Implant failure

D. Bone resorption

The most common long-term complication associated with costochondral grafts is asymmetric growth. Costochondral grafts are often used in reconstructive procedures, particularly for the mandible or maxilla. This grafting technique involves taking a segment of rib cartilage, which is then shaped and attached to the existing skeletal structure. As the patient grows, particularly in younger patients, the costochondral graft can have different growth rates compared to the surrounding bone, leading to an imbalance in growth. This asymmetric growth can result in functional and aesthetic issues, such as an uneven jawline or discrepancies in occlusion. Monitoring growth and development is crucial in patients who receive these grafts, especially in children and adolescents, to address any potential complications promptly. Other complications, while possible, do not occur as frequently as asymmetric growth. Infection and bone resorption can occur but are relatively less common and often manageable through proper surgical technique and care. Implant failure can occur with many types of grafts, but costochondral grafts are typically well-integrated when healing properly. Thus, asymmetric growth stands out as the primary concern in the long-term follow-up of patients with costochondral grafts.

6. What is the onset time for the action of Pradaxa?

A. Immediate

B. Within hours

C. 24 hours

D. Several days

The onset time for the action of Pradaxa, which is an oral anticoagulant containing dabigatran etexilate, is indeed within hours. Pradaxa works as a direct thrombin inhibitor, meaning it directly affects the blood clotting process. After ingestion, the pro-drug dabigatran etexilate is rapidly absorbed and converted into its active form, dabigatran, which has an onset of action typically between one to four hours after administration. This rapid onset is particularly beneficial in clinical settings where quick anticoagulation is necessary, such as in the prevention of thromboembolic events in patients with atrial fibrillation. Understanding the pharmacokinetics of Pradaxa is crucial, as it allows healthcare providers to make informed decisions about patient management, especially in terms of timing for procedures and potential bleeding risks. Choices suggesting a longer onset timeframe, such as 24 hours or several days, do not align with the pharmacological profile of Pradaxa. An immediate effect is also not the case, as there is a slight delay in the time required for the drug to reach therapeutic levels and exert its effect.

7. What can result from improper management of periorbital injuries?

A. Decreased visual acuity

B. Increased malocclusion

C. Chronic pain

D. All of the above

Improper management of periorbital injuries can lead to a range of negative outcomes that significantly affect the patient's quality of life and functional abilities. One major consequence is decreased visual acuity. The periorbital region contains several critical structures, including the eye itself, the optic nerve, and adnexal tissues. Injuries in this area, such as fractures or soft tissue damage, can disrupt these structures. If not managed correctly, it can lead to complications such as retinal detachment, optic nerve injury, or scarring of the cornea, all of which can diminish visual acuity. Increased malocclusion can also arise from mismanagement of periorbital injuries, particularly if there is associated trauma to the maxillofacial skeleton. Misalignment of facial bones, particularly the maxilla and mandible, can disrupt occlusion. Appropriate surgical interventions are essential to realign these structures and restore proper occlusal relationships. Chronic pain is another potential outcome of improper management. Inadequately treated periorbital injuries can result in long-term discomfort due to nerve damage, scar tissue formation, or joint issues in the facial skeleton. Patients may experience neuropathic or musculoskeletal pain that persists long after the initial injury

8. How much lingual bone is typically required around an implant?

A. 0.5 mm

B. 1 mm

C. 2 mm

D. 3 mm

In the context of implant dentistry, adequate lingual bone thickness is crucial for the stability and success of an implant. The general consensus in the literature indicates that a minimum of 1 mm of lingual bone is needed to provide proper support around the implant. This thickness ensures adequate vascularization and biomechanical stability, reducing the risk of bone resorption and other complications associated with insufficient bone. Having around 1 mm of lingual bone allows for enough peri-implant bone to resist loading and maintain the health of the implant site. It also serves as a buffer against potential horizontal and vertical movements that can occur during the functional loading of the implant. While options indicating less than 1 mm may seem insufficient due to the risks of exposure and failure, higher values like 2 mm or more can be beneficial but are often not considered a minimum requirement for immediate implant placement in healthy, quality bone. However, overstating the necessary amount of bone can lead to unnecessary bone grafting procedures, thus increasing patient morbidity and cost without significant advantages in outcomes.

9. What is recommended for fluid replacement therapy in cases of severe hemorrhagic shock?

A. Crystalloid solutions

B. Isotonic saline

C. Blood products

D. Electrolyte solutions

In cases of severe hemorrhagic shock, the primary goal of fluid replacement therapy is to restore intravascular volume and improve tissue perfusion. Blood products are specifically recommended in these situations due to their ability to provide not just volume but also essential components necessary for coagulation and oxygen transport. When significant blood loss occurs, a patient's red blood cell count may fall, leading to inadequate oxygen delivery to tissues. Blood products, including packed red blood cells, plasma, and platelets, effectively replace the lost components and help manage coagulopathy, an important aspect of treating hemorrhagic shock. This restoration of both volume and hemostatic function is vital for the stabilization and recovery of the patient. While crystalloid solutions and isotonic saline can be used for initial resuscitation in less severe cases of shock, they do not restore the oxygen-carrying capacity of blood. Electrolyte solutions may also help maintain hydration and electrolyte balance, but they lack the essential hematologic components needed during severe hemorrhage. Therefore, in the context of significant blood loss, the use of blood products is paramount for effective fluid replacement therapy.

10. What is the purpose of subdermal fat grafting during a parotidectomy?

A. To repair nerve damage

B. To enhance cosmetic appearance

C. To prevent Frey's syndrome

D. To promote healing of tissue

Subdermal fat grafting during a parotidectomy serves the purpose of preventing Frey's syndrome, also known as gustatory sweating. Frey's syndrome occurs when there is aberrant regeneration of the auriculotemporal nerve, leading to the innervation of sweat glands instead of salivary glands. By placing a fat graft in the disrupted area where the parotid gland was, the surgeon creates a physical barrier that helps to prevent the aberrant nerve connections from forming. This intervention can significantly reduce the risk of Frey's syndrome developing post-surgery, which is crucial for the patient's comfort and quality of life after a parotidectomy.