Q. 2 discuss the administration of atropine in a cardiac arrest essays examples

Business, Management

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Q1, Q2, Q3, Q4, and Q5 Essay

Q1. Anaphylaxis identification, management and prevention

Anaphylaxis is referred to as an allergic reaction encompassing anaphylactic shock as a severe manifestation of the said allergic reaction according to Sinclair (2010). The average number of the people believed to be at risk of the aforementioned condition is about 1 to 15% if exposed to certain allergens. Experts believe that the estimated figures vary depending on the definitions of reaction (allergyfacts. org. au, n. d.). During an anaphylactic attack, the patient’s body reacts badly to allergens causing by food, venom, medication, and or insect bite. The body has a natural defense mechanism that fights the allergic reaction the same way it does on bacterium or viral infection. The difference is that the manifestation of the condition ranges from within under an hour up t several days after in contact with the allergens. When allergens get into a person, the initial body reaction is chemicals including histamine released into the bloodstream, which triggers

inflammation as an immune response.

Blood vessels become dilated causing the sudden drop of blood pressure leading to the narrowing of airways causing suffocation and in some cases death. Edema or the leaking of blood in surrounding tissues is what causes the swelling that entails the sudden decrease in blood pressure. The signs and symptoms vary from patient to patient depending on the strength of their immune system. There are patient that shows mild implication of swelling up to severe cases where medical help is necessary as soon as possible. Emergency cases involving severe anaphylactic shock require specific management procedures for treatment and care. This includes managing the airways to avoid suffocation and or provide ventilator to keep air circulating and provide supplemental oxygen after placing them in a supine position with the legs elevated. A one-valve oxygen mask would be necessary in keeping an adequate supply of oxygen to the brain and keeping the patient from becoming unconscious. Managing anaphylactic cases also includes administration of Epinephrine, which maintains blood pressure and inhibits further agitation caused by the release of mediators. Immediate Intramuscular administration of Epinephrine in the vastus lateralis (thigh) provides a maximum plasma concentration of epinephrine as compared to subcutaneous administration (Haymore, Carr and Frank 2005). However, severe anaphylactic cases can be prevented by initiating immediate response to the onset of allergic reaction such as seeing allergists. Determining the cause of allergens in food, dust, insect sting, and or medication is the most important thing to avoid getting exposed to allergens that will trigger an anaphylactic event.

Cardiac arrest is referred to as the sudden loss of heart function in a person that has not been diagnosed for any heart disease. The term is cardiac arrest is different from heart attack because the latter is described as the blockage of heart flow causing the former. On the other hand, cardiac arrest can be described as a malfunction in the heart’s electrical system caused by irregular rhythms or arrhythmias (American Heart Association, n. d.). In cases where cardiac arrest occurs the administration of resuscitation ventricular arrhythmias drug such as atropine can help to alleviate the problem. USP or Atropine Sulfate Injection is intended for intravenous administration through Ansyr Syringe, which can be administered intramuscularly or subcutaneously. The medication usually requires titration PR interval, heart rate, and blood pressure as a guide in determining an appropriate dose.

For adults, an initial dose will vary from 0. 5mg to 1mg or about 5-10ml of 0. 1mg /ml solution (Eppert and Goddard, 2010) for antivagal effect or antisialogogue. The dosage is likely to increase up to 2 to 3mg or 20-30mg/ml solutions if intended for use as antidote for mushroom poisoning. In terms of patients with coronary artery disease the maximum dosage is restricted to 0. 03 to 0. 04 mg/kg in order to avoid atropine-induced tachycardia effect on oxygen demand. Furthermore, for patients suffering from cardiac arrest 1mg dosage is prescribed for administration intravenously every 3-5 minutes. This is because administering atropine at less than 0. 5mg will result to producing paradoxical bradycardia due to peripheral parasympathomimatic or central effects often observed among adult patients. In terms of pediatric dosage information, the appropriate

dosage was not well studied, thus medical history of pediatric patients suffering cardiac arrest often follows a 0. 01 to 0. 03mg/kg of the patient's body weight (rxlist. com, 2010).

Q. 3 discuss the pathophysiology of Intestinal Obstruction

Intestinal obstruction is simply described as a blockage in the intestine that hampers the normal flow of intestinal contents. The impairment of the passage of materials in the bowel results to the cessation of feces and flatus passage, which encompasses an apparent distension in the proximal intestine. This condition often manifests symptoms such as pain and an increase in abdominal girth. The primary cause of the problem is the impairment of blood supply in the intestinal walls and or increasing tension in the intestinal region due to external pressure and twisting that entails bowel perforation and necrosis (Allardyce, 2006). In some cases loop obstruction or otherwise a band adhesion observed across the ileum after instances of appendisectomy often results to open loop obstruction. This is when the proximal bowel can be decompressed by means of vomiting or with the aid of the clinician using nasogastric tube.

The objective of the approach is to decompress the tension from the intestine, which aims to avoid perforation. On the other hand, close loop obstruction where the recto-sigmoid junction is clogged by a tumor causing the obstruction in which decompression can be done depending on ileo-caecal valve. In some patients, the valve can prevent the decompression, but this further aggravates distension in the colon area (Ireland, n. d.). The importance of determining possible closed loop obstruction prior to surgery

is to ensure its successful outcome. Clinical examinations helps to determine the severity of the condition though pain assessment because patients suffering from intestinal obstruction experience somatic, referred, and or visceral pain. Pointing out the source of the pain also determines the source of the obstruction whether in the fore, mid, or hindguts. This division is based upon the coeliac axis, arterial supply, inferior mesenteric artery, and superior mesenteric artery (Allardyce, 2006).

Q. 4 List the potential or actual complications that might occur in patients who have had CVAD's inserted.

Inserted central venous access device to patient poses and imminent number of risks including air embolism. This complication potentially occurs during the catheter insertion where the tubing becomes disconnected and exposes to air. As it happens, the air trapped inside the tubing is likely to cause negative intrathoracic pressure resulted from the patient’s breathing inward drawing the air into the vein resulting to air embolism. Other complication of CVAD is infection. It is apparent is often anticipated in CVAD insertion as local and systemic infection is likely to occur when the insertion procedure was done with less sterility of materials used. CLABs or central line blood stream infections are common when the insertion technique encompass unsterile technique in which the infection of the exit site becomes the migration channel for pathogens along the surface of the external catheter (Clinical Excellence Commission, 2011). Infection is also likely to occur when the catheter was handled with contaminated hands, not wearing sanitary gloves, burettes, tubing, pressure transducers, and or flush solutions.

In some cases, venous thrombosis occurs as a risk manifestation of CVAD insertion. This is a result of an injury in the vein’s inner layer where the body responds by increasing fibrin and platelets resulting to clotting in the injured are of the vein. Indication of such complication manifest in the occurrence of edema within 48-72 hours after insertion, which is a result of the cloth preventing the blood from circulating back to the heart (Drake et al., 2004). If timely intervention was not initiated after determination, the edema is likely to be carried to the chest and to the neck. This will result to blood flow blocking flow to the head causing the patient to flushed and edematous face (Klein, 2000).

Q. 5 after starting a blood transfusion, your patient develops urticaria, hives and slight respiratory distress. From these symptoms, what would you conclude about the client's status and what interventions would you make?

Urticariam hives, and slight respiratory distress are indications of the adverse effect of transfusion, which will require immediate response. For instance, urticaria is form of allergic reaction that can be associated with bronchospasm and laryngeal edema. The plasma foreign proteins usually cause this from the infused blood. If the symptom occurs with sign of fever, there is an indication of for evaluation of hemolytic reaction. This problem can be resolved by the proper identification of the patient’s pre-transfusion blood samples including its protein components during transfusion to determine possible incompatibilities. This complication occurs to at least 1% of the patients undergoing blood transfusion (Aqui et al., 2011). In certain cases urticarial occurs as allergic reaction, but the symptoms emerge in a form of hives characterized generally by indications of erythematous

macular eruption and or rash. This kind of symptom is not accompanied by fever, but compatibility checking of the pre-infused blood must also be performed to prevent further complications.

In terms of slight respiratory distress, it is possible that the patient is experiencing TRALI or an abrupt onset of noncardiogenic pulmonary edema, which requires assisted ventilation when found to be developing into a severe complication. Transfusion related acute lung injury is often associated to the presence of antibodies existing in the transfused blood. The patient's leukocyte antigens react to the donor's plasma reactive causing inflammatory mediators to emerge during the process of storing the cellular blood components. Such complication can be resolved within 72 hours. However, fatalities are accounted to 10% of the patients experiencing TRALI (Kumar et al., 2013). The immediate solution to address such complication is to provide the patient with assisted ventilation and to regulate volume of blood being transfused. It would help to infuse smaller volumes at a time on a slower phase to allow the patient's body to get used to the newly introduced plasma.

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