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NSC408

Identify/ explain four emergency nursing conditions and their management.

1). Shock

2). Asphyxia

3). Fracture

4). Bleeding

1). Shock

Shock occurs when the metabolic needs of cells are not being met because of inadequate blood flow. In effect, there is a reduction in circulating blood volume, in blood pressure and in cardiac output. Hypoxia is as a result of deficiency in the amount of oxygen reaching the tissues and it eventually leads to shock.

Types of Shock

* **Hypovolaemic Shock**: This occurs when the blood volume is reduced by 15 - 25 %, reduced venous relium and in turn cardiac output may occur following: Severe hemorrhage (whole blood loss), Extensive superficial burn in which serum is lost and blood cells at the site of the burn are destroyed, Severe vomiting and diarrhoea in which water and electrolytes are lost, Perforation of an organ allowing its contents to enter the peritoneal cavity (peritonitis). Cardiogenic Shock: This occurs in acute heart disease when the damaged heart muscles cannot maintain an adequate cardiac output, e.g. in myocardial infarction.
* **Septic Shock (bacteraemic, endotoxic):** This is caused by severe infections in which endotoxins are released into circulation from dead gram-negative bacteria e.g. endobacteria, pseudomonas.
* **Neurogenic Shock (vasovagal attack, fainting**). The causes include sudden acute pain, severe emotional experience, spinal anaesthesia and spinal cord damage. Parasympathetic nerve impulses reduce the heart rate, and in turn, the cardiac output. The venous relium may also be reduced by the pooling of blood in dilated veins. These changes effectively reduce blood supply to the brain, causing fainting.
* **Anaphylactic Shock:** In allergic reactions an antigen interact with antibody and a variety of responses can occur. In severe cases, chemicals released e.g. histamine, bradykinin, produce widespread vaso dilation and constriction of bronchial or smooth muscles (bronchospasm), which reduces the venous return and cardiac output resulting in tissue hypoxia.

**Clinical Features**

* Pallor
* Moistly skin
* Cold extremities
* Thready pulse
* Low blood pressure
* Thirst
* Alteration of mental status
* Restlessness and apprehension
* Suppression of kidney function etc.

**Management**

* Diagnose and ensure that the patient is in the state of shock
* Set up I.V either Nacl or 5 % dextrose to replace the lost fluid, In case of blood loss, give blood transfusion,
* Establish and maintain a clear airway, Start resuscitation procedure if necessary.
* Give oxygen to augment the oxygen carrying capacity of arterial blood, Control haemorrhage as it can compound shock level.
* Maintain systolic blood pressure at 90-110 mmHg through fluid and blood.
* Insert a urinary catheter, the urine volume reveals adequacy of kidney function.
* Carry out rapid physical assessment to determine the cause of shock.
* Maintain close observation of the vital signs.
* Observe colour and urinary output to assess response to treatment.
* Elevate the feet slightly to improve cerebral circulation and promote venous return to the heart, (contraindicated in patient with injury).
* Re-assure and comfort the patient and give drugs as suitable.
* Maintain body temperature in case of septic shock.
* Relieve pain.

**2). Asphyxia**

Asphyxia Is a condition caused by lack of oxygen and excess of carbon dioxide in the lungs, blood and organs of the body. This condition can lead to unconsciousness or death if not quickly resolved.

 **Cause of Asphyxia**

* Blockage of airway due to foreign body or spasm of the larynx or bronchial muscle, as in the case of asthmatic attack.
* Disease of the lungs in which the air alveoli are been filled by inhaled exudates from pneumonia or water.
* Inhaled vapour or gas which replaces air, the victims drown in vapour or water. Drowning in which water rushes into the lungs.

**Management**

* In unconscious patient, control the tongue by putting it forward and lifting the mandible forward to prevent the tongue from falling back.
* Put the patient in prone position or semi-prone to ensure that no fluid can be collected in the pharynx or be aspirated into the trachea.
* Suction to remove mucus, blood or other bacteria which has accumulated into the throat.
* Give artificial respiration in sudden arrest of respiration by interference with the vital centers in the brain stem as in electric shock, cerebral concussion and drowning.
* Tracheotomy is performed if the throat cannot be kept cleared.

**3). Fracture**

Fracture is a break in the continuity of bone and is usually caused by injury either deliberately or accidentally. Apart from the broken bones, other structures may be affected resulting in oedema in soft tissue, haemorrhage into the muscles and joints, rupture of tendons, injured nerves and joint dislocation.

**Types of Fractures**

* Complete fracture: This involves a break across the entire cross section of the bone and is frequently displaced.
* Incomplete fracture: In this type, break occurs only through a part of the cross section of the bone and is usually undisplaced.
* Open fracture: This break extends through the skin and mucus membrane. Closed fracture: This break does not communicate with theoutside area.
* Green stick fracture: This is a fracture in which one side of the bone is broken and the other is bent.
* Comminuted fracture: Here the bones fractured are more than two; a bone can be broken in more than two places.

**Clinical Features**

* Pain which is continuous and increases in severity until the fractured bone is immobilized.
* Loss of function.
* Localised swelling.
* Discoloration of the skin.
* Deformity
* Tenderness Penetration of fractured bone in open wound.

**Management**

* Check for bleeding, paralysis and other conditions.
* Mobilise people around to help in splinting.
* Place the injured limb in as natural a position as possible before padding and splinting.
* Do not apply traction when a broken wound is protruding above the skin.
* To control bleeding, apply pressure gently by applying a sterile dressing to cover the site and rope an elastic bandage.
* Apply the splint properly before attempting to move fractured victim.
* Do not attempt to align an open fracture.
* Give analgesic to relieve pain.
* Broken neck patients should be moved in support to neck immediately.

**4). Hemorrhage**

Hemorrhage also known as bleeding is the name used to describe blood loss. It can refer to blood loss inside the body, called internal bleeding, or to blood loss outside of the body, called external bleeding. Blood loss can occur in almost any area of the body. Internal bleeding occurs when blood leaks out through a damaged blood vessel or organ. External bleeding happens when blood exits through a break in the skin.

Conditions that can cause bleeding include:

* hemophilia
* leukemia
* liver disease
* menorrhagia, heavy or prolonged menstrual bleeding, like what’s sometimes seen in endometriosis
* thrombocytopenia, low blood platelet count
* von Willebrand disease
* vitamin K deficiency
* brain trauma
* colon diverticulosis
* lung cancer
* acute bronchitis

management

* Lay the person down as soon as possible to reduce the risk of fainting, and try to elevate the area that’s bleeding.
* Remove loose debris and foreign particles from the wound. Leave large items such as knives, arrows, or weapons where they are. Removing these objects can cause further harm and will likely increase the bleeding. In this case, use bandages and pads to keep the object in place and absorb the bleeding.
* Use the following to put pressure onto the wound: a clean cloth, bandages, clothing, your hands (after applying protective gloves), maintain medium pressure until the bleeding has slowed and stops.

Do not:

* remove the cloth when bleeding stops. Use an adhesive tape or clothing to wrap around the dressing and hold it in place. Then place a cold pack over the wound.
* look at the wound to see if bleeding has stopped. This can disturb the wound and cause it to begin bleeding again.
* remove the cloth from the wound, even if blood seeps through the material. Add more material on top, and continue the pressure.
* move anyone with an injury to the head, neck, back, or leg
* apply pressure to an eye injury
* Use tourniquets only as a last resort. An experienced person should apply the tourniquet. To apply a tourniquet, follow these steps:
* Identify where to place the tourniquet. Apply it to a limb between the heart and the bleeding.
* Make the tourniquet using bandages, if possible. Wrap them around the limb and tie a half knot. Ensure there is enough room to tie another knot with the loose ends.
* Place a stick or rod between the two knots.
* Twist the stick to tighten the bandage.
* Secure the tourniquet in place with tape or cloth.
* Check the tourniquet at least every 10 minutes. If the bleeding slows enough to be controlled with pressure, release the tourniquet and apply direct pressure instead.