

Pediatric Emergencies - Handoffs of Care in Pediatric Emergencies



Medical Science

KEYWORDS :

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INTRODUCTION:

Accidents & pediatric emergencies are common threat for the survival in children's life. Medical emergency cope up frequently in pediatric practice & constitute a sizeable segment of illness among infants & children. History taking may be difficult & examination of children also.

The common pediatric emergencies

1. CARDIC ARREST:

Cardiac arrest is the abrupt loss of heart function in a child who may or may not have diagnosed heart disease. Cardiac arrest is caused when the heart electrical system malfunction. In cardiac arrest death result when the heart suddenly stop working properly.

CAUSES

- Congenital malformation
- Irregular heart rhythm
- Ventricular fibrillation
- Cardiac ventricular collapse

SYMPTOMS

- Sudden loss of responsiveness
- No pulse
- No breathing
- Sudden collapse.

EMERGENCY CARE

- If the carotid pulse is absent & no heart beat is heard. Use defibrillator.
- The patient must be put on a board or one the floor with heat lowered.
- Administer oxygen as necessary
- IV fluid & 0.9 mg sodium bicarbonate is given to correct acidosis.
- Drug such as calcium gluconate 10 ml & adrenaline given by intra cardiac injection.

2. CARDIAC TEMPONADE:

Cardiac temponade results from rapid accumulation of fluid within the pericardium there by raising the intra pericardial pressure.

CAUSES

- Pericarditis
- A ruptured aortic aneurysm.
- Lupus: an inflammatory disease in which the immune system mistakenly attacks healthy tissues.
- Blunt trauma to the chest from a car an industrial accident.

SYMPTOMS

- A sudden hemorrhage occurs in the pericardium.
- Distended jugular veins
- Paradoxical pulse
- Peripheral edema
- Tachycardia
- Hepatomegaly
- shock

EMERGENCY CARE

Immediate relief is given by evacuation of the fluid. Pericardiocentesis is done through one of the following sites depending on the

individual situation.

The fifth left intercostals space just medial to the apical impulse or the cardiac dullness.

A similar point at the 4th or 5th intercostals space on the right side.

3. DROWNING:

Drowning is one of the important causes of accidental death among children. Asphyxia with a matter of 1-2 minutes after complete submersion & cardiac arrest occur in the next 2-5 minute

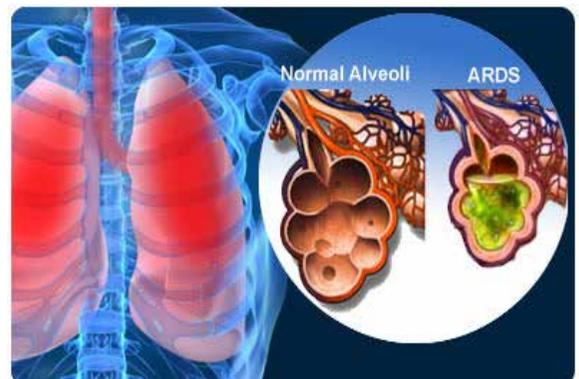


EMERGENCY CARE

- The immediate treatment is to clear the airway & to start mouth to mouth breathing, closed cardiac massage & oxygen.
- The child should be moved to the hospital as quickly as possible.
- The child is placed in prone position with the arms folded & the hands placed on the top of each other.
- Steroids & antibiotics are given as per necessary.
- 5. Keep the child warm & giving 100% oxygen, gastric and tracheal intubation & suction is if needed.

4.ACUTE RESPIRATORY FAILURE:

It is a condition that occurs when fluid builds up in the air sacs of lungs. When it happens, lungs cannot release oxygen in to the blood. In turn, organs can't get enough oxygen rich blood to function.



CAUSES

1. Respiratory system:

- Asthma
- Emphysema
- Foreign body
- Pneumothorax
- Pleural effusion
- Abdominal distension
- Pulmonary edema

2. Cardiovascular system:

- Congenital heart disease
- Congestive heart failure.

3. Chest wall Trauma

4. Narcotic poisoning

EMERGENCY CARE

- Oxygen administration (1-4 lit/m)
- Assisted ventilation.
- Aminophylline for relief from bronchospasm.
- Antibiotics, steroids, & potassium chloride.
- Endotracheal tube intubation if condition doesn't improve.

5. COMA:

A state of deep unconsciousness that lasts for a prolonged or indefinite period causes especially by severe injury or illness.



CAUSES

1. Intracranial causes-

- trauma
- Raised intracranial pressure or tension
- Meningitis
- Intracranial disease
- Encephalitis
- Degenerative disease.

2. Extra cranial causes-

- shock
- Diabetic coma
- Hepatic coma
- Hypoglycemia
- Electrolytic imbalance
- Poisons
- Septicemia
- Hyperpyrexia

SYMPTOMS

- Unconsciousness
- Deep sleep
- Lack of movement

EMERGENCY CARE

- Maintain the airway by keeping the child in prone &

side lying position.

- Removal of foreign body by suction
- Tracheotomy
- Administration of oxygen
- Supportive treatment
- Administration intravenous fluid.
- Nutrition through nasal tube feeding up to 48-72 hr
- Catheterization is to be done for bladder care.

6. HYPERPYREXIA:

Hyperpyrexia is defined as temperature over 106f or 41.5c.

It is commonly seen in the children due to severe infection.

CAUSES

- Encephalitis
- Meningitis
- Septicemia
- Malaria
- Heat stroke
- Poisoning
- Tetanus
- Post operative period.

EMERGENCY CARE

- The aim is to bring down temperature to 102-103f as quickly as possible
- Rapsid sponging or ice-cap (bag)
- Cold water enema
- Air conditioning with effective ventilation maintenance
- Drug administration
- Aspirin, amidopyrin group drugs
- Inj. Chlorprazin 0.5 mg/ kg by ml
- Antibiotic fluid administration to prevent dehydration

7. SHOCK

Shock is a life threatening condition that occurs when the body is not getting enough bloodflow.

This causes damage to multiple organs.

This causes damage to multiple organs.

CAUSES

- Heart failure
- Infection or severe allergic reaction
- Spinal injury
- Hypotension
- Dehydration
- Burn
- Hemorrhage

SYMPTOMS

- Congestive heart failure
- Meningitis
- Other infection

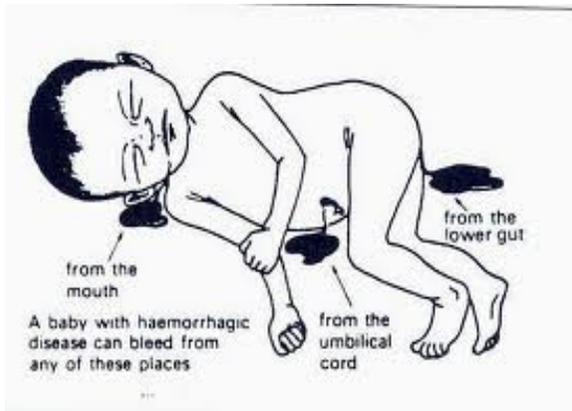
EMERGENCY CARE

- Ensure ventilation by resuscitation.
- Endotracheal tube intubation.
- Oxygen administration to protect against hypoxemia.
- Elevated lower extremities to promote increased venous return.
- Normal saline for replacing body fluid.
- Dextrose 5% -10% provide calories for energy.

8. HAEMORRHAGE

Hemorrhage is a term applied to bleeding or a flow of blood, especially if it is very profuse. The hemorrhage may

be external or internal.



CAUSES

1. Gastro intestinal system

Hematemesis

It is caused by swallowed blood from, tumors, peptic ulcer, and dental extraction. Rectal bleeding- Caused by swallowed maternal blood during delivery, fissures, prolapsed rectum, upper gastro intestinal bleeding etc.

2. Respiratory system-

- Epitaxis - it is caused by trauma, foreign body, rheumatic fever.
- Hemoptysis - it is caused by whooping cough, pneumonia, TB.
- Hemothorax - caused by chest trauma.

3. Renal system-

Hematuria-It is caused by TB, glomerulonephritis, septicemia.

SYMPTOM-

- Blood loss
- Hypovolemic shock
- Tachycardia
- Hypoxia
- Mental confusion
- Unconsciousness or coma

EMERGENCY CARE

- Supportive therapy includes oxygen, suction, gastric lavage & treatment of cardiac arrest.
- Laboratory data & clear laprotomy may be indicated.
- Immediate surgery treatment is necessary if the child is having hemorrhage from vital internal organ.

9.FOREIGN BODY ASPIRATION

It is a common problem among children.

Infancy- is the oral phase, when infants explore everything by putting them in the mouth. Small get aspirated.

Toddlers- After aspirate foreign bodies such as peanut, almond, groundnut, seeds, grains & pulses occasionally, small metallic coin may also be inhaled through more after these are swallowed.

SYMPTOMS

- Suffocation
- Complete obstruction (bronchus)
- Difficulty of breathing
- Emphysema
- Pneumonia
- Lungs abscess

EMERGENCY CARE

- The care should be taken not to leave any small objects in infant hands. Never feed solid foods which are difficult for them to chew, such as groundnuts.

- Management is aimed at removing the foreign body (in most cases by bronchoscope).
- Administration of appropriate antibiotic in care of infection.

10. POISONING

The growth, characteristic of the normal child such as increase activity & oral exploration of objects in early life, naturally leads to such accident.



CLINICAL FEATURES

- Abdominal pain
- Loss of weight
- Irritability
- Vomiting
- Constipation
- Poor physical development
- Seizures
- coma

EMERGENCY CARE

- Emetics- vomiting is induced by tickling the back of the throat or by the use of emetic such as large drink of salt water or by syrup 9-15 ml repeated after 15 minutes.
- Gastric lavage- for the cleaning of the gastrointestinal tract & administration of antibiotic
- The fluid that is useful in gastric lavage are-
 - Warm tap water
 - 1% salt solution
 - Soluble starch solution
 - Sodium bicarbonate 1%
- Symptoms of supportive therapy-
 - Keep the patient warm
 - Administration of blood & isotonic fluids.
 - Suctioning of the respiratory tract.
 - Antibiotics for prevention of complication

11. SNAKE BITE

Snake bite is common emergency, particularly among children living in slums & villages.



TYPES

- Neurotoxin cobra.
- Hemorrhagic hemotoxic viper.
- Neuro hemotoxic krait.
- Other- Poisonous water snakes

SYMPTOMS

- Nausea, vomiting, pallor, cold extremities
- Burning pain, fang mark
- Headache, dizziness, myalgia, dysphasia
- Swelling, severe pain,
- Redness & numbness site of the bite

EMERGENCY CARE

- Immediate measures—Wound should be cleaned with saline/water.
- The bitten part should be immobilized & placed in a dependent position.
- Specific measure- children require larger dose, because there is greater concentration of venom /body weight.
- Through subcutaneous or intra muscular injection of anti-venin
- Supportive measures- Tetanus toxoid, booster, if child had previous immunization
- Antibiotics for prevention of infection
- Every four hour vital sign check up
- Every 2 hr change the position of the child
- Suctioning of the respiratory tract

12. ROAD TRAFFIC ACCIDENT

Traffic accident or vehicle accidents are major cause of mortality in pediatric population today. These accidents are increase day by day. As the road traffic increase, road traffic accidents are more common till school age group.

CAUSES

- Advancement of play materials & riding method like- Cycles, & small petrol bikes
- Negligence of parents
- Lack of supervision
- Playing by children in colonies, streets & on roads
- Negligence of traffic rules
- Lack of first aid facilities vehicles

EMERGENCY CARE

- Children must not be allowed to play in streets
- Children should be taught how to safely cross the road as soon as they are old enough to understand
- They should be careful not to be run over by a reversing car

IMPLEMENTATION OF RULES

- Traffic rules, such as compulsory wearing of crash helmets.
- Restriction of the speed alcohol level of drive
- Checking of blood alcohol level of drivers
- Regular checking of vehicles
- Seat belt should be also made compulsory
- Children must not travel on the front seat of the car

CONCLUSION

The pediatric emergency is vital to assess & treat children with a variety of condition and emergency care. So as to enable children to be managed in than beginning rather when condition get worse.

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