

Birth Injuries and trauma

Objectives:

By the end of this lecture, you should know:

- 1. Which baby is at risk for birth injuries**
- 2. What are the types of birth injuries**
- 3. How to diagnose and treat birth traumas**

Risk Factors

1-Maternal factors

Pelvic Abnormalities

Cephalo-pelvic Disproportion

Prolonged Labor

Instrumental Delivery

2-fetal factors

Breech delivery

Macrosomia

Prematurity

Shoulder Dystocia

Malpresentation

Congenital Anomalies (hydrocephalus)

Types of Injuries:

I. Cranial Injuries

II. Peripheral Nerve Injuries

III. Visceral Injuries

IV. Skeletal Injuries

V. Muscular Injuries

I. Cranial Injuries:

1- Caput Succedaneum

2- Cephalhematoma

3- Subaponeurotic hemorrhage

4- Subconjunctival, retinal hemorrhage petechiae of the skin of head and neck

5- Intracranial hemorrhage

Caput Succedaneum & Cephalhematoma

- **Caput succedaneum is swelling under the skin of the scalp, while**
- **Cephalohematoma results from bleeding under the scalp**
- **Both conditions are related to pressure on the baby's head during birth**
- **They are usually harmless**

How do neonates with these two problems present?

Swollen Scalp

Caput Succedaneum:

It appears as diffuse edema or ecchymotic hemorrhages of the scalp soft tissues involving the presenting part of vertex delivery.

It is usually associated with moulding of skull bones.

It appears at birth and disappears within the first few days and needs no interference.

chignon :

edema and bruising from Ventouse delivery

Cephalhematoma:

It is a swelling caused by subperiosteal hemorrhage limited to one cranial bone and does not cross the sutures with or without underlying skull fracture.

It is not visible except in the 2nd, 3rd day after birth and takes time to disappear.

It may be associated with large amount of blood and thus: Anemia and /or Hyperbilirubinemia may be present.

Aspiration is contraindicated as it may introduce infections, Only conservative treatment.

II. Peripheral nerve injuries:

1. Brachial plexus injury

- Erb's Duchene palsy
- Klumpke paralysis

2. Phrenic nerve paralysis

Erb's palsy:

- An adverse condition caused by a physical injury (and stretching) of the nerves during delivery
- A form of obstetric brachial plexus disorder
- Infants with this condition usually can't move the affected shoulder or upper arm
- Occurs during a difficult labor:
 - Excessive pulling on the shoulders
 - CPD
 - Breech birth

Investigations:

X-ray of the affected side (shoulder and upper limb)

To exclude conditions with similar findings (differential diagnosis)

- # clavicle
- # long bones
- Shoulder dislocation
- Treatment:

Active PHYSIOTHERAPY from the 2nd week post natal

Sometimes a multidisciplinary team is needed (Pediatric neurologists, neurosurgeons, physical therapists, and orthopedic surgeons)

Phrenic nerve paralysis :

- ☉ It results from injury of 3th, 4th & 5th cervical Ns (eventration of the diaphragm)
- ☉ It leads to respiratory distress and cyanosis.

A facial nerve palsy :

may result from compression of the facial nerve against the mother's ischial spine or pressure from forceps. It is unilateral, and there is facial weakness on crying but the eye remains open. It is usually transient, but methylcellulose drops may be needed for the eye. Rarely, nerve palsies may be from damage to the cervical spine, when there is lack of movement below the level of the lesion

Visceral injuries

Liver,spleen,suprarenal : They may pass asymptomatic or lead to a state of shock, pallor, and jaundice. Diagnosed by abdominal ultrasonography.

Skeletal injuries: The commonest affected bones are:

- 1- Clavicle:
 - 2- 2- Other Bones: Femur, Humerus , Skull , Ribs
- Dislocations of hip & shoulder and Epiphseal separation :

Muscular injuries:

Sternomastoid Tumor: A swelling of the lower half of the muscle due to hematoma

Clinical picture: Hard, painless, non-fluctuating cervical swelling

Complications: Torticollis

Treatment: Physiotherapy.

