SKELETAL DEFECTS

* Cleft Lip And Cleft Palate

Cleft lip and cleft Palate are congenital malformation of face resulting from the failure of fusion of first branchial arch during intrauterine development. The complete formation of lip often occur by 5 to 12 weeks, whereas the formation of palate may occur only by 12 to 14 weeks of gestational age.

Cleft lip and cleft palate may occur as single or in combination. It may be unilateral or bilateral

⇒ Cleft Lip (Hare lip).

The baby is born with a cleft in the upper lip. There may be two clefts one on either side, with the central part of the lip jutting or protuding out. The nose appears flat and asymmetrical. The infants have difficulty in sucking from breast and bottle. They are best fed expressed breast milk (EBM) with a spoon or paladai or rubber-tipped medicine dropper. Infant should be fed slowly by keeping the head in the upright position to avoid choking. Nasal blockage and congestion may interfere with feeding and breathing. In some cases of unilateral cleft lip, gavage feeding is preferred during the first few days.

⇒ Cleft Palate

It results from failure of masses of lateral palatine processes to meet and fuse together. Cleft palate is found as an opening or elongated opening or fissure in the roof of the mouth, which should be detected during routine neonatal examination. Although cosmetically less frightening, it seriously interferes with feeding in early life and causes difficulties in speech later in life. The baby is unable to suck at the breast or bottle and feeding is associated with risk of regurgitation through the nose and aspiration into the lungs. The baby should be fed sitting in an upright position with a nipple flat teat which can close the gap in the palate.

⇒ Causes

The cause of cleft lip and cleft palate may be genetic or due to unfavourable environmental factors. Maternal factors may be viral infections during 5th to 12th weeks of gestation or ingestion of drugs, exposure to X-ray, anemia and hypoproteinemia.

⇒ Types of cleft Lip and cleft Palate

- Group I (Prealveolar):- It includes only cleft lip in right or left side or bilateral and rarely in midline. It can have subtypes i.e

Group I-A, which indicates cleft lip and alveolus
Cleft and Group I-B, indicating sub-surface cleft visible with smiling.

- Group II (Postalveolar): It includes only cleft palate. Submucous cleft may found as fistula & bifid uvula.
- Group II (combined): It includes both cleft lip and palate in middle or may be unilateral or bilateral.

⇒ Complications

Immediate Problems:
1. Feeding problem due to ineffective sucking resulting to undernutrition
2. Aspiration of feeds resulting respiratory infections
3. Parental anxiety due to defective appearance of the infant.

Long term Problems:
1. Disturbed parent-child relationship and maladjustment with nonacceptance of the infant
2. Impairment of speech.
3. Impaired body image due to altered shape of face & oral cavity.

~~Management~~ Diagnosis

History collection
Prenatal USG
Physical examination
X-ray shows deformity of palatine bone.

Management:
Management is based on the severity of defect.
management of cleft lip & cleft palate required a team effort involving pediatrician, a plastic surgeon, orthodontist, speech therapist, Psychologist

Surgical management

The surgery for cleft lip & cleft palate is planned by 'Kliners rule of ten'
- For cleft lip - 10 weeks of age, 10 pound weight & 10 grams of hemoglobin.
- For cleft palate - 10 months of age, 10kg weight & 10 gm of hemoglobin.

* Surgical repair technique for cleft lip & Cleft Palate
  - Cheiloplasty
  - Palatoplasty

Nursing Management

* Preoperative Care
  - Keep the infant NPO for 6 hours before surgery.
  - Administer premedication as per doctors Order.
  - Physical, physiological, psychological and legal preparation should be done.

* Postoperative day
  - Keep the airway clear from accumulation of mucus in the nose & mouth.
  - Mild sedation may be prescribed to prevent infant from crying
  - Careful positioning
  - Restraining the arms, if necessary
  - The mother & father should be encouraged to remain with their child as much as possible
  - The infant is fed with a medicine dropper.
  - Clear fluids offers initially, breast milk or formula can be given when tolerated.
  - The mouth should be rinsed with water before & after feeding
  - Do not brush the teeth 1-2 weeks after the surgery
  - The suture line must be cleaned gently with cotton or gauze-tipped swab dipped in hydrogen peroxide or saline solution & dried carefully several times a day to ensure proper healing.
  - The parents are taught the ways by which injury to the palate can be

Page No.

Date __/__/____

prevented after discharge & prevention of upper respiratory tract infection.

- Speech Therapy should be given.
- Encourage the child to socialize with family members & others