**Cleft Lip and Palate**

The treatment for those patients needs multidisciplinary approach. We need a team of different specialities including Plastic surgeon,Otolaryngologist and Audiologist Speech Pathologist ,Dentist ,Orthodontist and Maxillofacial Surgeon

It is a birth defect so we always refer to embryology to know about the normal process and what goes wrong so we have ended with clefts.

Definitions:

Malformation is alterations in normal development

Deformation is abnormal mechanical force on otherwise normal fetus

Disruption is changing of otherwise normal development (breakdown of the original normal fetal developmental process)

Coincidence of cleft lip & palate is **1 out of 750** births

So it is a common abnormality second only to club foot.

Males have more cleft lip alone and combined cleft lip and palate while females have cleft palate more.

If a family has a baby with cleft, the incidence for the second baby to have a cleft is 1:30 so here we need genetic counseling.

Multiple reasons had been proposed. **Genetics** is a very strong reason.

Cleft lip and palate can come alone or with other syndromes (more than 300 syndromes)

Also there are other factors to cause it like environmental factors, viral, steroids, mothers taking anticonvulsants) and many others.

X-ray has been claimed to be a causative factor or a contributing factor. So the mother has the right to judge the dentist if he gave here x-ray during pregnancy.

In 4-7 weeks of pregnancy, we have the frontonasal process, maxillary and mandibular processes for the face.

Cleft lip is failure of fusion between the mesodermal part of the medial **nasal** and **maxillary process**

Complete closure occurs at 35 days of gestation

Failure of fusion could cause unilateral, bilateral or median lip clefting. (most common to see is unilateral on left side)

If error in fusion with the mandible we will have lower lip cleft but it is very rare

Between 8-11 weeks of gestation we have the fusion of palatine shelves to form the secondary palate

Lack or incomplete fusion of Palatal shelves lead to cleft palate.

\*\* Around the fifth week, the intermaxillary segment araises as a result of fusion of the two medial nasal processes and the frontonasal process within the embryo. The intermaxillary segment gives rise to the primary palate. The primary palate will form the premaxillary portion of the maxilla

Secondary palate refers to that portion of the [hard palate](https://en.wikipedia.org/wiki/Hard_palate) that is formed by the growth of the two palatine shelves medially and their mutual fusion in the midline. It forms the majority of the adult palate and meets the [primary palate](https://en.wikipedia.org/wiki/Primary_palate) at the [incisive foramen](https://en.wikipedia.org/wiki/Incisive_foramen).

Prenatal diagnosis

It is diagnosed when the soft tissues is fully developed using the sologram or 3d and 4d ultrasound (at 13-14 weeks).

Diagnosis is important at this stage for 2 reasons:

-Psychological effect for the parents. Parents become more ready to accept the problem and to learn about treatment. They should know that it is a long process treatment.

-Management: to do intervention and repair for the baby in uterus (It is applicable nowbut not accepted in our countries).

We said we need a team work and the most important one in the team is the mother.

Management after birth

The baby is fully examined after birth.

We will have problem with feeding especially with cleft palate. The baby is unable to do suckling of milk

In bilateral cases, all the milk the baby suck will go to the nose. Also the baby might have problem with soft palate and pharynx, so we will have influx of fluids back to the mouth & nose.

So babies with have special feeding instruments, like long nipples bottles so the milk will go directly to the pharynx.

In cleft lip, we put adhesive tape for the baby till he is ready for surgery.

In cleft palate we make an obturator (prosthesis) for the baby to close the defect. You take an impression with your finger or using a spoon and then construct the prosthesis in the lab.

Lip repair could be done at **3 months** after birth and palate at 9 months

Baby under 3 months will not afford general anesthesia.

Rule of 10: the baby is 10 weeks old, 10 pounds, and Hemoglobin is around 10 so here the baby could enter a surgery

We call it a primary lip repair because the patient will need later on a second surgery (lip revision mostly when he is adult and growth of face has stopped)

First step in surgery is to do primary lip repair at 3 months, then cleft palate repair at 9-12 months.

We do the surgery for palate at one year because at this time the patient will start speaking so we are concerned in speech at this point.

Till min 19:30

Thank you

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