

# Cleft Lip and Palate

Last Lecture Part 1

## **Introduction:**

Cleft lip and palate is the most common oral craniofacial anomaly.

The most important thing is the Team Work. These anomalies are not treated only by orthodontist or by surgeons alone. So prepare your team tasks first before arranging any treatment with any patient.

## **Prevalence:**

The incidence between people depends on studies and researches done. It ranges between 1 every 600 to 1 every 1000 live birth.

- \* The incidence of Cleft Lip only is more common in Males. It is usually unilateral and occurs on the left side.
- \* The incidence of Cleft Palate only is more common in Females.

The prevalence also depends on the race;

- In the East, it is more common
- In Africa, it is less common
- In Caucasian, it is in the middle and this represents Jordan too.

[East>Caucasians>Africa]

The doctor made a retrospective study on 2004 with Dr. Farouq Al-Omari and they found that cleft lip and palate shows to be in 1.39 to 1000 that equals to 1 every 700 live birth.

The incidence of Cleft lip is 30%, Cleft palate is 22%, and Cleft lip and palate is 48%

18% of the cleft lip and palate are associated with other Craniofacial Syndromes.

The study showed that there is no significant sex differences. 55 in males: 45 in females.

### **Development:**

--> we have to go back to the Embryonic development. There is a table that shows the timing of development, and the doctor will give us two papers from Profitt that will be asked about in only TWO questions in the exam.

- \* The primary palate development occurs in the first 4-6 months (28-36 days) of pregnancy. Any problem during this period will be translated as a Cleft Lip or Cleft Palate.
- \* The secondary palate development occurs in the 6-8 months (42-55 days) of pregnancy. Any problem during this period will be translated as a Cleft Lip and Palate.

## **Classification:**

- \* First:
  - Syndromic
  - Non-syndromic: this is our main concern
- \* Second: this is the simplest classification
  - Primary Palate Development
  - Secondary Palate Development
- \* Third:
  - Complete: involving the lips, alveolus, and soft palate
  - Incomplete: involving any of the parts
- \* Forth:
  - Unilateral
  - Bilateral

The most common easy way to represent your classification is using a schematic diagram representing the areas affected by coloring them separately.

## **Etiology:**

It is considered to be Multifactorial.

- \* It can be Genetic:
  - The mechanism is not understood yet but they showed that is it a mutation affecting Chromosome #6 and it is shown to run along families.
  - The incidence of having one child with cleft lip and/or palate and another child in the same family is increased by 20%.

\* It can be due to Environmental Factors:

- Nutritional Deficiencies like Anemia (Esp. Folate Deficiency)
- Radiation.
- Drugs.
- Hypoxia during delivery.
- Viruses.
- Vitamin Excess or Deficiencies (like Vit.C deficiency).

--> In regards to Folate Deficiency:

\* Any parents who are planning to get pregnant and have a family history of Clefts should be administered Folic Acid (4mg) in a period of 3 months before conception.

\* This injection has showed to decrease the incidence of neural crest defects as well as Clefts.