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Bilateral Oblique Facial Cleft

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Congenital, Classification, TESSIER, AACPR

While Cleft Lip and Palate Deformity is relatively frequent obligue medical and lateral facial clefts are extremely rare. A Short Review of Literature and Method of Repair is described.

INTRODUCTION

A Greek Physician Galen, around 170 A.D. mentioned cleft lip as a Coloboma. Historically the facial cleft was first recorded in Latin by Von Kumtus (1732). A century later walter Dic of Gasgow reported the first case in English Medical Literature. It was a seven month old still born foetus with bilateral obligue facial clefts. (1837) Davis (1955) reported a series of 1000 cases of congenital facial deformities and his photographs suggest that incidence of obligue facial clefts is one in five births with congenital facial anomalies. Whereas a series of Fogh Anderson (1965) suggests that incidence is around one in three.

Committee of AACPR (Association of American cleft plate Rehabilitation) recognised two main types of obligue facial clefts (1962), i.e. oro

Photographs

ular and naso ocular types. Oro ocular was later subdivided into oro medial canthal typeand oro lateral canthal type, with or without cranial extension.

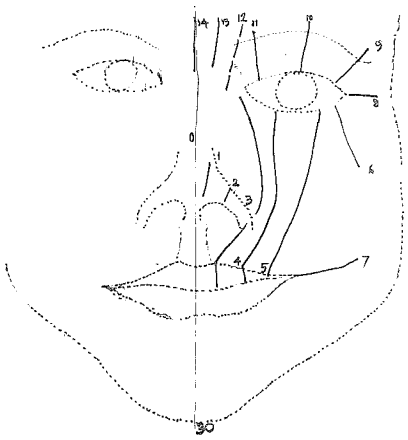
Australian series by Guntur (1963) comprises of Naso ocular clefts but no oro ocular clefts.

Khoo Boo chin (1970) reported two cases of obligue facial clefts with review of 41 cases from world literature.

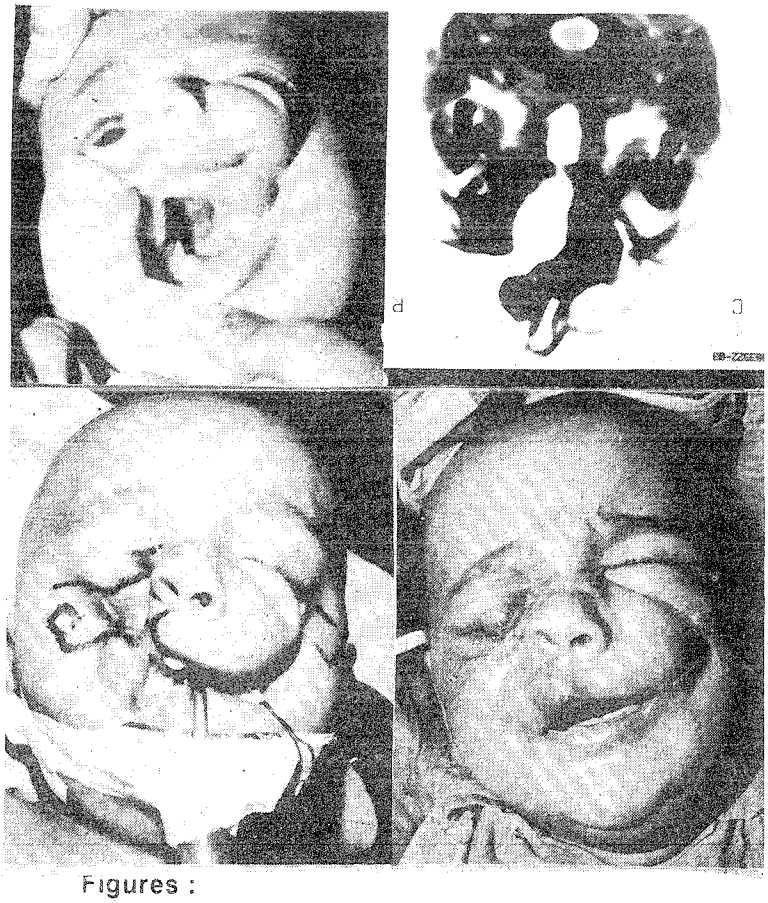
He has taken infra orbital forman as a landmark for classification. According to him out of 41 cases of his series 12 cases were naso ocular type, 23 cases were of type-I (Medical) oro ocular, 2 cases were of type-II (Lateral) oro ocular type facial clefts. 4 cases in this series were found to be of mixed types.

Tessier (1974, 1976) proposed a comprehensive classification of facial clefts, keeping orbit, nose and mouth as key landmarks. He has regarded orbit as the reference landmark, since it is common to face and cranium.

Skethch 1



TESSIER'S CLASSIFICATION



Figures :

1. Pre-Operative
2. C.T. Scan-bony gap of rt.
3. Post-Operative.

CASE REPORT

10 month ole live full term normal delivery infant presented with reight medial oro ocular and left lateral oro ocular facial clefts. C.T. Scan confirmed right maxillary bony deficit. No other congenital anomalies elsewhere were present.

DETAILS OF THE DEFECTS
RIGHT SIDE

Clinical Examination revealed complete medial oro ocular cleft with skin, soft tissue and bony involvement. The cleft started lateral to the cupids bow and philtrum, passing lateral to the nasal ala on to the cheek taking a curved course to reach the medial canthus of the lower eye lid. It terminated medial to the punctum. Naso lacrimal system was found to be normal. Medial canthal tendon was also found to be normal. Nasal ala was more or less normal. Rt. eye was present and functional with medial 1/3 rd lower eye lid coloboma. A definate bony gap was present starting between lateral incisor and canine (of the Right side) extending upto

maxilla, and ending at the orbital floor. There was marked hypoplasia of the maxilla.

LEFT SIDE

Incomplete oro ocular cleft was seen on this side Soft tissue cleft started from the angle of the mouth and extended upto lateral canthus of left eye. Bony defect was present in the maxilla as a depression between the premaxilla and maxilla.

Patient was operated. Incisions were made as per the standard procedure. On the right side a turn over flap was raised at the site of coloboma to establish the continuity of conjunctival surface. The outer layer was obtained from a rotation flap from the lateral aspect of cheek. Lowermost part of the cleft i.e. the lip was reparied in three layers lollowing the principles of Millards rotation advancement method. Rest of the cheek tissue was repaired by multipal plasties. For the left facial cleft a turn over flap was raised to bring in continuity in conjunctive at the upper and of the cleft. A rotation flap was taken from the medial side cheek to make the outer covering of the lower lid. Thus lid deficit was repaired in two layers. The soft tissue cleft at the lower and i.e. cleft of the left was repaired in three layers (mucosa, orbicularis oris muscle and skin) taking care of oral commissure at the left corner or the mouth. Rest of the cheek tissue was repaired in layers by multiple Z plasties.

DISCUSSION

First eight weeks of interauterine life are very curucial for anatomical development. Any compromise, vascular in perticular is considered a factor responsible for resultant oblique clefts. Aetiology of oro ocular clefts is difficulty to explain because it is not based on natural lines of fusion of well defined arches and processes. According to Sir Arther Keeth, inadequate vascular supply can produce dysplastic creases or necrotic groups along with water shed between developing vascular areas, resulting in various kinds of facial clefts. This theory seems most plausable to explain oro ocular clefts. Frazer too supported this same theory. Braith wight and Watson suggested that maldevelopment of total absence of stapedial arteryor haemorrage at the site of this artery can reuslt in facial clefts. Sanvenero Rossellia believed that the arterial system bears the responsibility for congential malformations (1953).

In medial oro ocular clefts the water shed lies between the beds of the terminal branches of the ophthalmic and internal maxillary artery whereas in case of lateral oro ocular clefts the vascular water shed seem to be between the terminal branches of maxillary artery and those of mandibular artery. The anomaly present in our case appears to be consistant with above hypothesis.

Further evidence suggests extirpation of the appropriate area of the neural crest in the cheek embryo may precipitate facial cleft on the same side. (Jonston 1966).

According to Millard medial oro ocular clefts are due to failure of mesoderm migration or merging to obliterate the embryonic grooves between nasolateral, nasomedial process and the maxillary process. The lateral oro ocular clefts has the same origin as the transverse clefts but its direction is oblique, not following any of the embryonic facial grooves.(1977).

According to Tessiers classification this case presented has no. 4 complete clefton the right side and no. 5 incomplete cleft on the left side and according to Khoo Boo Chai patient has right sided type-I oro ocular cleft (medical canthal type) and left sided type-II oro ocular cleft (Lateral canthal type).

CONCLUSION

A rare case of bilateral oblique facial cleft is presented and operative modalities described.

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