Surgery can potentially compensate the deficiency of maxillary bone, palatal mucosa and muscle. Veau and Kriens first described the abnormal position of levator muscle and need for an intra-velar veloplasty (IVVP) to release, reorient and reposition the muscle at the time of cleft palate repair. Leonard Furlow believed that the concept was correct. He described and sketched a modification of IVVP using a double opposing Z plasty in 1978. Dr. Peter Randall agreed with Dr. Furlow's concept and introduced the operation at The Children's Hospital of Philadelphia. The modification at the Philadelphia Hospital was relaxing incisions to achieve a tension free closure. Same technique was performed in our centre on 30 patients. After a one and a half year follow-up we have evaluated the velopharyngeal function using nasal endoscope, nasal twang, oro-nasal fistula and need for secondary surgery. We found the technique to be satisfactory with minimal incidence of postoperative complications and achieved an excellent velopharyngeal competence.

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O3.27

Pre-surgical naso-alveolar moulding in children with cleft lip and palate

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Cleft lip and palate may show considerable variation in severity and form. Extensive clefts with extreme deficiency in hard and soft tissue present a challenge to obtain functional and aesthetic results at the end of the surgery. To reduce the severity of the initial cleft deformity and to achieve better aesthetic and functional outcomes in cleft lip and palate children, pre-surgical naso-alveolar moulding can be applied using an intraoral moulding plate with specially designed nasal stents. Naso-alveolar moulding enables reduction of the alveolar gap width, retraction of the deviated larger segment in unilateral clefts and pre-maxilla in bilateral clefts, correction of the nasal cartilage deformity and elongation and uprighting of the columella in bilateral cases. In this presentation, newborn cleft lip and palate children who have been treated in our orthodontic clinic with naso-alveolar moulding technique before primary lip and nose surgery will be presented.

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O3.28

Pedicled buccal pad of fat—a trust worthy adjunct in cleft palate repair

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Wide palatal clefts are often difficult to close without complications. Even though the surgeon performs complete closure, secondary oronasal fistulas can develop because of large lateral raw bony surfaces. Use of pedicled buccal fat pad is gaining popularity in closure of palatal defects because of its easy technique, rich vascularity, high success rate and lack of visible scar in donor site. Pedicled buccal fat pad provides excellent soft tissue support for secondary epithelialization when primary dehiscence has or would have otherwise thwarted ultimate closure of palatal defect. The purpose of this paper is to provide the rationale for use of pedicled BFP graft as an adjunct to the reconstruction of palatal cleft in cases when healing by secondary intention may need to be considered due to wide cleft. We are presenting 10 cases in which a pedicled BFP was adjunctively used in conjunction with pedicled mucosa flaps to gain closure of large oronasal deformity.

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O3.29

Pedigree in cleft patients

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Introduction: Cleft lip with or without cleft palate is the most common congenital anomaly involving foetal face with marked racial and geographical disparities. *Objective of the study*: The aim of this study is to precise the incidence of this multifactorial disorder in patients with previous family history. Knowledge of specific factors like increase in risk with severity of the trait, number of affected relatives, sex of relative affected and how closely is relative related to patient in concern make it indispensable in prevention of disease. *Method of the study*: Family tree of 50 patients with a positive history who reported to our smile train unit was traced. *Results*: The results show a wide range of diversity with two members in 72% to four members in 9% of the patients affected in a family. The closeness of relatives to patient varies as 37% and 46% in first and second generations, respectively. Incidence of consanguineous marriages has been found in 21% of cases and maternal origin of the disease in 55% of the cases. Presence of cross-inheritance was found in 60% of the cases to progression of the disease across generations in 54% of the cases. The results of the study find use in genetic counselling and culture understanding.

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O3.30

3D laser scanning—'a precise tool for documentation in cleft patients'

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Introduction: Established methods for the documentation of cleft lips are: plaster casts, conventional photography or video. Simple photographs and plaster cast are insufficient for the acquisition of the three-dimensional soft tissue morphology of the lip. We have evaluated the applicability of a laser scanning device (Vivid 900, Minolta, Germany) for the imaging of the cleft morphology in everyday routine. *Methods*: Scans of 40 patients with cleft lips were acquired. The scanning system was tested concerning handling and reliability. The gained data sets were evaluated relative to image quality and use for cleft analysis. A standard report for cleft morphology was developed. *Results*: The acquired 3D datasets (mean acquisition time per image 2 s) from the facial surface were of diagnostic quality in 77%. Landmarks could be placed reproducibly in these data sets with measurements in the dimension of millimetres. A new analysis standard was introduced by expressing the datasets on the basis of ratios which are independent on size factors. *Conclusion*: The presented 3D laser system is a precise tool for 3D imaging of the complex facial surfaces in cleft lips. However, its application is limited in lively infants or uncooperative adults due to scan time and acquisition method.

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