PROTOCOL OF ANTHROPOMETRIC EXAMINATION OF PATIENTS BEFORE SECONDARY RHINOCHEILOPLASTY.

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Cleft lip and palate is one of the most common congenital deformities of the cranio-facial complex. It is usually accompanied by the deformity of the nose and delay in the growth of the midface. Patients with secondary deformity of nose and lip after cheilorhinoplasty have a distortion in the aesthetic perception of the face and function of nasal breathing, which affects their psycho-emotional state and leads, sometimes, to social isolation[1,2,3,4].

The **objective** of this work is the improvement of treatment outcomes of patients with unilateral secondary cleft lip nose deformities following the primary cheilorhinoplasty.

Materials and methods. Surgical treatment of 68 patients, aged 16 to 34 years, with unilateral secondary cleft lip nose deformities was performed in the maxillo-facial surgery department of the Azerbaijan Medical University between 2004 and 2020. During the preop preparation the following examinations were performed: endoscopic, X-ray, photographic, anthropometric and computer modeling. For the quantitative analysis of the face, nose and lips the anthropometric study by Farkas with our modification was carried out. This analysis was based on the measurement of 23 parameters and the calculation of 30 proportion indices. For comparison, the data of anthropometric norms of craniofacial area, created by as, was used. [5,6,7]

The following anthropometric proportions were included in our protocol:

Nasal indices: Nasal index (al-al)x100/(n-sn), Nasal root- Nose width index (mf-mf)x100/(al-al), Columella width-Nose width index (sn'-sn')x100/(al-al), Nostril- floor width index (sbal-sn,r&l)x100/(al-al), Nostril width- Nose height index (sbal-sn,l)x100/(n-sn), Nasal tip protrusion – Width index (sn-prn)x100/(al-al), Nasal tip protrusion – Nostril floor width index (sn-prn)x100/(sbal-sn,r&l), Nose width - Ala length index (al-al)x100/(ac-prn,r&l), Columella width- Length index (sn'-sn')x100/(c'-sn,l), Nostril floor width- Ala length index (sbal-sn,l)x100/(ac-prn,l), Nasal tip protrusion – Nose heigth index (sn-prn)x100/(n-sn), Ala length – Nose heigth index (ac-prn,l)x100/(n-sn), Nasal tip protrusion – Ala length index (sn-prn)x100/(ac-prn,l), Nasal tip width – Nose width index (sap-sap)x100/(al-al), Nasal tip width – Nasal base width index (sap-sap)x100/(ac-ac).

Lip indices: Upper lip height – Mouth width index (sn-sto)x100/(ch-ch), Cutaneous –Total upper lip height index (sn-ls)x100/(sn-sto), Vermilion – Total upper lip height index (ls-sto)x100/(sn-sto), Vermilion – Cutaneous upper lip height index (ls-sto)x100/(sn-ls), Vermilion height index (ls-sto)x100/(sto-li).

Face, nose, lip relationship indices: Nasal bridge length index (n-prn)x100/(n-sn), Nose – Forehead height index (n-sn)x100/(tr-n), Nose- Face width index (al-al)x100/(zy-zy), Nose heigth – Face width index (n-sn)x100/(zy-zy), Nose – Face heigth index (n-sn)x100/(n-gn), Nose –Upper face height index (n-sn)x100/(n-sto), Nose- Lower face height index (n-sn)x100/(sn-gn), Nose-Mouth width index (al-al)x100/(ch-ch), Nasal tip protrusion – Upper lip height index (sn-prn)x100/(sn-sto), Upper lip height – Nasal height index (sn-sto)x100/(n-sn).

Results The assessment of immediate and late outcomes of the treatment of patients with unilateral secondary cleft lip nose deformities following the primary cheilorhinoplasty was performed every 3 months during the year and then annually afterwards. Good aesthetic and functional outcomes of the treatment were obtained in 63 patients, the other 5 patients underwent reoperation.

Conclusions Anthropometric examination, which is based on studying the proportion of a nose, lip and face parameters, allows planning surgery and performing quantitative analysis of changes following the surgical intervention, that facilitates the improvement of treatment outcomes of patients with unilateral secondary cleft lip nose deformities.

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