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O 003

Evaluation of velopharyngeal complex in children after veloplasty.

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[Background] The velopharyngeal complex (VPC) is a multifunctional system whose indicators are important for the determination of surgical tactics and its evaluation in children with cleft palate (CP).

[Method] MRI of 93 children without CP, 15 - with CP, after veloplasty in age from 5 to 18 years.

[Result and Discussions] The most significant indicators of the VPC and their correlation with soft palatal muscles are determined (tab.1). In children with CP after veloplasty (the clinic technique) VPC indicators up to 6 years are in line with the norm, from 7 to 18 years a decrease in the length of soft palate (6.9 ± 4.2 mm), increase of the width (5.3 ± 2.4 mm) and a depth of mesopharyngs (4.3 ± 1.9 mm), the distance to the posterior wall of the pharynx (3.6 ± 0.9 mm) are observed. For the planning of veloplasty, it's required to determine the length of the soft palate (VL), width (PhW), depth (PhD), height (PhH), distance to the posterior wall of the pharynx (VPR) and the size of soft palatal muscles (LVP, VID, TVP) for their reconstruction. Changing the indicators of the VPC may indicate development of velopharyngeal insufficiency and need for active loading of soft palate muscles.

O 004

Vomer morphometric parameters in norm and in children with bilateral complete cleft lip and palate.

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[Background] Premaxillary and vomer morphometric parameters of the length, thickness and density are determined with age-related changes in normal and bilateral cleft lip and palate (BCLP).

[Method] A retrospective analysis of premaxillary and vomer morphometric parameters was performed according to CT data in 20 children with BCLP aged from 6 days to 8 years and 114 children from 6 days to 14 years are normal.

[Results] Vomer growth occurs in length up to 1 year by 24% in the norm most actively. Growth spurt were noted at 5 and 7 years, accordingly to 13% and 20%. Growth activity falls by age 8 to 8% per year and slow down by age 14. Vomer thickens most actively up to 2 years. Vomer density has increased along its entire length in 2 from 1 month to 3 years, wherein from birth to 6 months - by 6%, up to 1 year - by 19%. The density jump occurs from 1 to 2 years by 56%. Density peak is observed at 3 years with slow induration by age 8 ($p < 0.05$). Vomer density holds steady along its entire length from 8 to 14 years. Vomer middle part is the most dense $HU2 = 742 \pm 120$ mg/cm³ ($p < 0.05$) in all age groups in normal. Correlations were founded between density and vomer length, more in its

caudal part (0.888 , $p < 0.01$).

The child with BCLP was born with protrusion, where vomer and premaxillary total length is 1.6 as large than normal ($p < 0.001$). Vomer growth is slow, premaxillary process manifests itself more actively up to 1 year, increasing by 33%. Vomer growth stabilization is noted from 1 to 4 years, after 4 to 8 years regrowth. Vomer thickness in children with BCLP is in 1.6 as large by age 1 and after a year in 2.3 as large compared to normal ($p < 0.001$). Vomer density is 3 as large in children with BCLP than normal, at every of the age groups and at each points of definition ($p \leq 0.001$). Indicator values rising was identified from the point $HU1 = 952 \pm 120$ mg/cm³ to point $HU3 = 1168 \pm 187$ mg/cm³ ($p < 0.001$).

[Discussion] The tendency of the order of vomer growth and increase its density is determined as a result of vomer morphometric parameters research normally. This tendency was not observed in children with BCLP. Vomer density is increases in the proximal-distal direction in children with BCLP, the caudal part is densest.

O 005

Long-term outcomes of primary palate surgery-one surgeon's experience

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[Background] The treatment of children born with a cleft lip, alveolus and/or palate requires long-term dedication and involvement of both parents and surgeon. The success of primary cleft is measured by the achievement of intelligible and socially acceptable speech. Speech outcomes have improved significantly with the evolution of the palatoplasty techniques, emphasis on a proper muscle repair and speech therapy. Over the years has been great debate about the protocol and technique used: one-stage or two stage and need for secondary surgery to correct the VPI. The literature review that we conducted shows an overall rate of secondary pharyngeal surgery between 2.1%-63.4% with a mean of 12.7%. The highest velopharyngeal surgery rate was registered after modified Von Langenbeck/ Wardill closing of the palate (35.9% -63.4%) and the lowest surgery rate after Furlow palatoplasty (0%-20%).

[Method] All patients who underwent primary cleft repair between 1990-2018 by the same surgeon were identified using our computerized data system. The setting was represented by two university centers in Belgium: AZ Sint Jan, Bruges and UZ Brussels. All potential cases were screened through a review of medical records to ensure that the information of each patient was accurate. The following parameters were collected: age, gender, timing of the primary cleft surgery, procedures performed, need of secondary surgery to correct the velopharyngeal incompetence.

[Results] Out of 168 patients included in the study, 5 (2.9%) required a second surgery in order to correct the velopharyngeal insufficiency. Two of the patients were Veau II and three were Veau III.