

## **Abstract**

The objective of this study was to evaluate the facial morphology of boys with complete unilateral cleft lip and palate. The study is based on a longitudinal cephalometric follow-up of X-ray films of 37 boys who underwent primary periosteoplasty and were examined at the age of 5, 10, 15 and 19. The splanchnocranium was dissociated into three parts (whole splanchnocranium, upper face and mandibula). In each part was used x, y coordinates of 8 landmarks. Then the changes of facial morphology was evaluate by methods of geometric morphometry; especially the Procrustes analysis which was used for geometric prime component analysis, thin-plate splines method and for review of average shape.

The most marked change of facial shape is the transformation of face proportion. The face becomes relatively elongated during the whole tracked period, but the shift in anterior direction is reduced with expectation in area of nose. In period from 5 up to 10 years the face is relatively elongated because of divaricate of alveolar prominences, but in next periods is face relatively elongated because of relatively growth of high of mandibular body. Mandibula begins more remarkabled part of face. Mandibular angle decrease as well as saddle angle.

**Key words:** cleft lip and palate, geometric morphometry, primary periosteoplasty, Procrustes analysis, PCA, TPS method