CHANGES OF LARYNGEAL PARAMETERS DURING INTRAUTERINE LIFE

A. Gawlikowska-Sroka[1], D. Miklaszewska[1], E. Dzieciołowska-Baran[1], I. Teul1, E. Kamienska[2], T. Sroczynski[3], I. Poziomkowska-Gesicka[4], and F. Czerwinski[1]

[1]Department of General and Clinical Anatomy, Pomeranian Medical University, Szczecin, Poland, gawlikow@ams.edu.pl;
[2]Clinic of Pediatrics, Hematology and Oncology, Pomeranian Medical University, Szczecin, Poland;
[3]Department of Physiology, Pomeranian Medical University, Szczecin, Poland;
[4]Department of Clinical Allergology, Pomeranian Medical University, Szczecin, Poland

Obstruction of the airway and others disorders of the respiratory system play a major role in the mobility and mortality of newborns, especially in preterm babies. Increased care of foetal and neonatal airways has led to advances in neonatal medicine. Early diagnosis and treatment of respiratory diseases requires detailed knowledge of foetal airway anatomy and development. In the literature there are many studies concerning the structure of the larynx and its individual cartilages in adults, but fewer studies concern newborns, infants and children. The aim of this study was to determine the anatomical development of the thyroid and cricoid cartilages and their structural variability during the foetal stage. The study was performed on the thyroid and cricoid cartilages of 55 human foetal larynges of both sexes, between the ages of 13 and 27 weeks of intrauterine life. Numerous measurements of thyroid and cricoid cartilages were performed. Correlations between the obtained results were calculated in relation to the crown-rump (C-R) length of human foetuses and to sex. The structural variability of thyroid and cricoid cartilages in human male and female foetuses in subsequent weeks of intrauterine life was observed. In both genders a correlation between laryngeal size and foetal crown-rump length, independently of sex, was stated. The thyroid cartilage presents a sexual dysmorphism. The results of this study can be useful in the analysis of prenatal examinations and in planning treatment of airway emergencies.