

20. TRACHEAL BRONCHUS IN CHILDREN - A CONGENITAL BRONCHOPULMONARY MALFORMATION WITH CLINICAL SIGNIFICANCE

Author: Victoria Cepraga

Co-author: Adriana Untila Grib

Scientific adviser: Rodica Selevestru, MD, Department of Pediatrics, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova; Svetlana Şciuca, University Professor, Department of Pediatrics, *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. The tracheal bronchus (BT) is a rare congenital tracheal abnormality, defined as the presence of an ectopic bronchus that comes from the lateral wall of the trachea. Most cases are asymptomatic and occasionally diagnosed by advanced chest imaging techniques. BT is usually associated with other congenital abnormalities, such as congenital heart disease, pulmonary vascular abnormalities, respiratory tract abnormalities, or chromosomal abnormalities (1). There are 3 types of BT: type I originating at the middle and lower junction of the trachea, type II - in the lower third of the trachea and type III has a BT resulting from the tracheal wall near the level of the carina, giving the appearance of trifurcated carina (3). During endotracheal intubation, it can lead to atelectasis, the association of an infection and poor ventilation, which would lead to lung collapse (2).

Aim of study. Computed tomographic (CT) evaluation of the chest in children with congenital malformation - tracheal bronchus.

Methods and materials. Computed tomographic (CT) evaluation of the chest in children with congenital malformation - tracheal bronchus. The current study included 14 children with congenital malformation - tracheal bronchus, confirmed by CT of the rib cage. The average age of children is $3.5 \pm 4.5 / 3.6$ years with a range of 5 months to 15 years. The study included 6 boys (42.9%: 95% CI 17.7-71.1) and 8 girls (57.1%: 95% CI 28.9-82.3). Pulmonary CT was performed using Toshiba Aguillion Prime 80 Slices. The statistics were processed by Epi Info 7.2, Microsoft Excel.

Results. Tracheal bronchus was found in all children with an emergency on the right side. In 3 children (21.4%: 95% CI 4.7-50.8) the malformed bronchial segment has a medium onset of trachea, in 2 children (14.3%: 95% CI 1.8-42.8) in the lower segment, and in most cases - 9 children (64.3%: 95% CI 35.1-87.2) near the tracheal bifurcation, resulting in the trifurcated appearance of the trachea. Children with this malformation presented children with bronchopulmonary changes infiltration pneumonia at 3 (21.4%: 95% CI 4.7-50.8), interstitial changes with the appearance of frosted glass in 2 cases (14.3%: 95% CI 1.8-42.8), segmental infiltrations with atelectatic component - 4 children (28.6%: 95% CI 8.4-58.1), and pulmonary fibrosis in 3 children (21.4%: 95% CI 4.7-50.8). Other congenital malformations (azygous venous lobe, Fallot tetralogy, common arterial trunk, doubling of the brachiocephalic vein) than tracheal bronchus were detected in 3 children (21.4%: 95% CI 4.7-50.8).

Conclusion. The tracheal bronchus is a congenital malformation of the right side of the trachea. This bronchial malformation is clinico-imaged by bronchopulmonary changes with pneumonic infiltration, fibrotic changes with matte glass imaging, segmental atelectasis and fibrotic changes, and some children are associated with other congenital malformation.