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DETERMINANTS OF INTERSTITIAL LUNG DISEASE IN CHILDREN WITH THE DOWN'S SYNDROME

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Relevance: diagnosis interstitial lung disease (ILD) in children is rarely established, even with the results of high-resolution computed tomography and bronchoalveolar lavage. The frequency of observations of ILD in children is 0.36 / 100,000, compared with 60-80 / 100,000 in adults, 10% nosologic forms in the structure of ILD in children are malformations of the alveoli and blood vessels, surfactant protein genetic defects and defect of the gene responsible for lamellar bodies synthesis. It is known that for children with the Down's syndrome, lung malformations are characteristic at the time of birth: alveolar hypoplasia, abnormal vascular location and hypertrophy of the muscular layer of arterioles.

Aim: Improvement of diagnosis of interstitial lung disease in children with the Down's syndrome by identifying and clustering the risk factors of the disease.

Materials and methods: 37 children with trisomy on 21 chromosomes were examined, among them 14 (37.8%) with ILD (the main group) and 23 (62.1%) had not yet formed ILD (comparison group). The mean age of the main group was 9.7 ± 2.4 months, the comparison group - 11.2 ± 3.6 months ($p > 0.05$). The children were examined from 2007 to 2016 at the Department of Pediatrics No.1 and neonatology of Kharkiv National Medical University. Evaluation of physical development at birth, analysis of obstetric, pre- and perinatal anamnesis of comorbid pathology held in all children of the general totality.

Analyzing obstetric anamnesis, it has been proven the impact of acute respiratory illness in the 2nd trimester of pregnancy on the formation of ILD (DI 0.37-0.79; $F(1.27) = 3.93$; $p = 0.049$) 2 trimester of pregnancy is the period when the channels formed in the lung mesenchyme, ending development of terminal bronchioles and acini.

Congenital heart defects had 11 ($85.7 \pm 2.9\%$) children of the main group and 9 ($39.1 \pm 3.9\%$) examined children of the comparison group ($p < 0.05$). Significantly more children with the Down's syndrome that formed the disease are identified defects with pulmonary circulation enrichment. Artificial ventilation was longer in children with the ILD and the Down's syndrome: 11.5 ± 2.13 days in the main group and 2.7 ± 0.95 in the comparison group ($p < 0.01$). It was found the influence of the presence of combined heart disease, prolonged mechanical ventilation (> 7 days) and the use of cardiopulmonary bypass during an operation on the development of ILD in children with the Down's syndrome ($F(5.79) = 16.8$; $p = 0.002$).

Conclusions:

The greatest weight in the formation of ILD in children with the Down's syndrome is the presence of combined heart disease in a child, using artificial circulation and prolonged mechanical ventilation (days) during cardiac surgery.

The smaller cluster effect in shaping ILD in children with the Down's syndrome has adverse perinatal anamnesis (acute respiratory illness in the 2nd trimester of pregnancy, intrauterine pneumonia in newborn) and cytomegalovirus infection in anamnesis.

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HYPERPROLACTINEMIA SYNDROME IN REPRODUCTIVE AGE WOMEN

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Hyperprolactinemia (HP) is a condition of elevated serum prolactin, which effects reproductive system.