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**The role of 1067INSG of Matrix metalloproteinase 1 in the formation of bronchopulmonary dysplasia**

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**Introduction:** Soluble growth factors, cytokines, transcription signal through the implementation of epithelial- mesenchymal program via activation of gene promoters, MMP-1 1067insG the mutation of the gene MMP-1 is associated with increased activity of MMP-1, increased epithelial- mesenchymal restructuring and the development of fibrosis as the basis of bronchopulmonary dysplasia (BPD).

Aim: to improve the early diagnosis of the formation of a new form of bronchopulmonary dysplasia by analyzing the polymorphism of MMP-1 (1067insG) of children born prematurely.

**Materials and methods:** The subject of study of buccal epithelial cells in the presence of a polymorphism of the gene MMP-1(1067insG) by polymerase chain reaction in 27 patients with a new form of bronchopulmonary dysplasia (study group) and 20 infant born preterm, but not formed the BPD (comparison group).

**Results:** The gestation age in the exanimated groups were not significantly different the main group – 28.7±1.7 weeks, in the comparison group – 30.2±2.3 weeks (p>0,01)/ Revealed that 19 (70.3±8.9%) children with BPD restarted polymorphism of the gene MMP-1(1067insG), which was significantly different from the detection rate in the comparison group 4 (20±9.1%). We prove a significantly relationship between the presents of BPD and polymorphism of the gene MMP-1(1067insG)(r=0,432; p<0.05).

**Conclusion:** polymorphism of the gene MMP-1(1067insG) is a marker of epithelial mesenchymal violation pattern that predisposes to the development of BPD in preterm.