

Modern view of a patient with bronchopulmonary dysplasia

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Objective. To analyze the new model of a patient with bronchopulmonary dysplasia (BPD) based on the analysis of 70 case histories of infants hospitalized at the National Medical Research Center for Children's Health Federal state autonomous institution of the Russian Federation Ministry of Health from 2020 to 2021.

Methods. Collection and analysis of anamnestic data, as well as clinical and laboratory examination of 70 infants with BPD. The analysis of the results was carried out using STATISTICA 10.0 program.

Results. In total, all studied infants ($n = 70$) were diagnosed with a new form of bronchopulmonary dysplasia. Among them there were 35 boys (50%) and 35 girls (50%). The mean gestational age was 26,4 weeks [SD, 1.9 weeks]. All premature infants were born with extremely low and very low birth weight (85,7% and 14,3%, respectively). The median birth weight was 745 g (Interquartile range (IQR): 650–920). The median Apgar score at the 1st minute was 5 (IQR: 4–5), at the 5th minute — 6 (IQR: 5–6). 67 infants were intubated after birth, the median of duration of mechanical ventilation was 21 days (IQR: 6–36); CPAP treatment was initiated in 33 children, the median was 8 days (IQR: 5–13),

BIPAP — 39 patients, nasal cannulas — 47 infants, nasal mask — 14, incubator — 19. Median duration of oxygen dependence was 54 days (IQR: 45–70). The period of oxygen dependence had an inverse relationship with anthropometric data and gestational age. All patients received surfactant therapy, postnatal corticosteroids — 32 infants (46%). In addition, pneumonia was observed in 35 children (50%), intraventricular hemorrhage in 60 patients (86%), necrotizing enterocolitis in 34 children (49%). Pulmonary hypertension, as one of the complications of BPD, occurred only in 7 patients (10%).

Conclusion. The current model of a patient with a new form of BPD is a premature infant with extremely low or very low body weight, born at a gestational age of no more than 28 weeks. The morphological and functional immaturity of these children, combined with the impact of new resuscitation technologies on their respiratory system, led to the pathomorphosis of BPD and the predominance of a new form in the population. The study of the clinical features and long-term outcomes of BPD is an urgent problem of pediatric pulmonology and requires close attention in the future.