

# Long-Term Outcomes of Health Status of Children Born with Congenital Infection

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## Abstract

**Background:** Congenital infections (CI), which have a chronic course in 80% of cases, are the cause of death in 58.2% of premature and 39.1% in term infants. Moreover, the urgency of the CI problem is caused not only by significant perinatal and postnatal losses, but also by the occurrence of adverse long-term consequences leading to disability of children who have undergone severe forms.

**Aim:** To study of frequency of morbidity in the first 3 years of life in children born with congenital infections and at different gestational ages.

**Materials and methods:** The study included 158 children born with congenital infection who were hospitalized in the neonatal intensive care unit: 1A group - 110 full-term, 1B group - 48 preterm newborns. Children were observed longitudinally during the first three years of life. The control group consisted of 76 healthy newborns without congenital infection: 60 term and 16 preterm newborns. We evaluated physical and psychomotor development, the frequency of morbidity.

**Results and discussion:** In children born with CI in the first year of life, a high incidence of diseases of the nervous system was revealed. The incidence rate of diseases of the nervous system in children born with CI in term -  $72.1 \pm 4.4\%$ , in the group of preterm infants -  $72.7 \pm 6.7\%$  ( $p_1 < 0.001$ ). The frequency of the nervous system diseases at 3 years of age in term -  $24.3 \pm 4.2\%$ , in preterm babies -  $27.9 \pm 6.8\%$  ( $p < 0.01$ ). The specific weight of cerebral palsy in the structure of neurological pathology is high: 1A -  $8.2 \pm 2.6\%$  (9), 1B -  $10.4 \pm 4.4\%$  (5) cases.

Respiratory diseases in term infants in 1 year are found in  $44.2 \pm 4.9\%$ , in preterm -  $59.1 \pm 7.4\%$  ( $p < 0.05$ ); at 3 years in the 1A group -  $26.9 \pm 4.3\%$ , in the 1B group -  $31.8 \pm 7.0\%$ .

Congenital malformations (atrial septal defect, intraventricular septal defect, anencephaly, hydrocephalus, hydronephrosis, cataract, cleft lip and palate, etc.) were significantly more frequently observed in the first year of life:  $26.9 \pm 4.3\%$  in group 1A and  $25.0 \pm 6.5\%$  - in group 1B ( $p < 0.001$ ); at 3 years old,  $17.5 \pm 3.7\%$  in group 1A and  $16.3 \pm 5.6\%$  in group 1B ( $p < 0.01$ ). An increase in surgical activity was noted in relation to early ages children with congenital heart defects.

Delay in psychomotor and speech development (allalia, dysarthria, cerebrotrophic behavior disorders, sleep disorders, etc.) was observed at 1 year the same in term and preterm infants ( $15.4 \pm 3.5\%$  and  $15.9 \pm 5.5\%$ ), at 3 years the incidence rate decreased in term infants -  $7.0 \pm 3.9\%$ , and in preterm infants it remains high -  $12.6 \pm 3.3\%$  ( $p < 0.05$ ).

In preterm infants of group 1B eye diseases were more common  $22.7 \pm 6.3\%$  than in group 1A -  $13.5 \pm 3.3\%$ . Typical specific eye lesions were anophthalmia, microphthalmia of one eye, atrophy of the optic nerves, and chorioretinitis.

**Conclusion:** Congenital infections affect early childhood health, and preterm babies have the highest incidence rates. The most adverse of outcomes of congenital infection is a gross delay in neuropsychic development, cerebral palsy.

**Keywords:** IMCI, child, digital tool

