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Organizing care for premature infants with patent ductus arteriosus during the postoperative period

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Relevance. More than 3,000 children with a very low (VLBW) and extremely low birth weight (ELBW) are born in Russian maternity hospitals every year. One of the pathologies that exacerbate the severity of premature infants' condition is patent ductus arteriosus (PDA) with the blood shunting from aorta to pulmonary artery (left to right).

The incidence of hemodynamically significant PDA is inversely related to gestational age. 55-80% of infants with gestational age less than 28 weeks and with ELBW (<1000 g) have clinical signs of PDA - cardiorespiratory distress syndrome.

Studies show that PDA is a risk factor for necrotizing enterocolitis formation, and it leads to disruption of cerebral perfusion (to risk of periventricular leukomalacia).

Object: to create conditions, allowing to reduce the risk of complications in the postoperative period, during nursing care for preterm infants with PDA.

Materials and methods. During 2014, the department treated 138 patients: 41% of newborns (61% of premature infants with PDA, 75% of them - children with VLBW, and 15% - with ELBW), 25% of children of the first year of life, 19% of children at the age of 1 to 3 years, and 15% of children aged over 3 years.

A survey in the intensive care unit conditions includes:

- echocardiography (exclusion of other ductus dependent heart defects, evaluation of diastolic return in the pulmonary artery, the duct diameter);
- chest radiography (radiological signs of increased pulmonary blood flow).

Operating in the incubator allows to avoid hypothermia of the child, as reserves of heat reproduction in premature babies are extremely small, and hypothermia sometimes has catastrophic effects.

It is important to organize the interaction with the neonatal reanimations for further premature infants nursing.

Results. When caring for premature infants after surgical treatment of PDA, the nurse's activities should be directed:

- to creating an appropriate environment;
 - to preventing possible complications related to the restructuring of blood circulation
- left ventricular myocardium dysfunction;
- arterial hypotension;
- arterial hypertension;
- to preventing infectious complications.

Conclusions. While organizing the care for premature babies, a nurse should act towards the prevention of complications related to the restructuring of the circulatory system, and towards the creation of optimal conditions for nursing, depending on gestational age.

The nurses' training and qualification level is one of the conditions that will ensure quality care for such patients.

RECOMMENDED READING LIST

1. Volodin N.N., Baibarina E.N. (eds.) The protocol of maintaining the premature infants with hemodynamically significant ductus arteriosus. *M.: RASPM*. 2010. 28 p.
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3. Prakhov A.V. Neonatal cardiology. *N. Novgorod: Publishing House of the Nizhny Novgorod State Medicine Academy*. 2008. 388 p.
4. Razumovsky A.Yu., Luzhina M.Yu., Feoktistova E.V. Hemodynamically significant patent ductus arteriosus in newborns with low birth weight: a view of the surgeon. *Questions of Practical Pediatrics*. 2007; 2 (1): 27-32.