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ACUTE KIDNEY INJURNY IN PRETERM INFANTS WITH HEMODINAMICALLY SIGNIFICANT PATERN DUCTUS ARTERIOSUS FROM MOTHERS WITH CHORIOAMNIONITIS

Obolonska Olha
as. prof
ORCID: 0000-0001-9863-1828
State Institution "DNIPROPETROVSK MEDICAL ACADEMY of the Ministry of Health of Ukraine", Dnipro, Vernadskogo 9, 49044

Abstract. *In this article, the author, based on prospective data, considers the effect of maternal chorioamnionitis on the development of acute renal damage in premature infants with hemodynamically significant patern ductus arteriosus (HsDA).*

Against the background of HsDA and maternal infection, a severe form of GPN was observed in every third child. Five of the six children who died had HSDA after a maternal infection. Mortality in this subgroup reached 17.9% against 2.2% among other infants

Key words: *premature babies, acute kidney injury, hemodynamically significant patern ductus arteriosus, maternal chorioamnionitis*

Introduction. Premature births, which account for about 10% of all births, are a global health problem and a major cause of infant morbidity and mortality (1). More than 50% of preterm births are caused by chorioamnionitis (HA), which is the result of ascending or descending infection of the placenta in the mother (2). HA is associated not only with premature childbirth, but also with multiple complications from the child after birth (3). It is believed that HA causes inflammation in the tissues of the fetus, including the kidneys (4,5). The question of the influence of HA on the development of acute kidney injury (AKI) is discussed. some authors believe that kidney damage is associated with their morphofunctional immaturity due to impaired nephrogenesis, namely a decrease in the number of nephrons and their structure (6).

Main text. To study the influence of chronic foci of infection in the mother on the development of AKI in premature infants with hemodynamically significant patern ductus arteriosus (HsPDA). The study was open, cohort, prospective. It was held in 2018-2019 on the basis of the NICU Department UC"Dnipropetrovsk Regional Children's Clinical Hospital" and was approved by the commission on medical ethics of the hospital.

Inclusion criteria: premature infants at 29-36 weeks of gestation with Hemodynamically significant patent ductus arteriosus (HsPDA) , signed informed parental consent to participate in the study.

Exclusion criteria: congenital malformations, intracerebral and intraventricular hemorrhages of III-IV stage, neonatal sepsis, severe asphyxia in childbirth, skin diseases, intrauterine growth retardation**.**

Was examined40 premature infants with HsPDA who were admitted to the department in the first days of life. Patients were divided into two groups depending on the presence of HA in the mother. Group I - 12 children from mothers without HA, group II - 28 children from mothers with HA. On the tenth day, 6 children dropped out due to the development of conditions that are exclusion criteria (2 from group I and 4 from group II).

Clinical examination and treatment of premature infants was performed according to generally accepted protocols. 23 children (57.5%) developed AKI. The most influential from the maternal history of the development of AKI was chorioamnionitis.

Children whose mother had a history of HA had an AKI 2.5 times more often than 20 (50%) versus 8 (20%) ($p = 0.009$). All children from mothers with chorioamnionitis had AKI ($p = 0.002$).

Against the background of HA in the mother, a severe form of AKI was observed in every third child, which is 2 times more often than without HA.

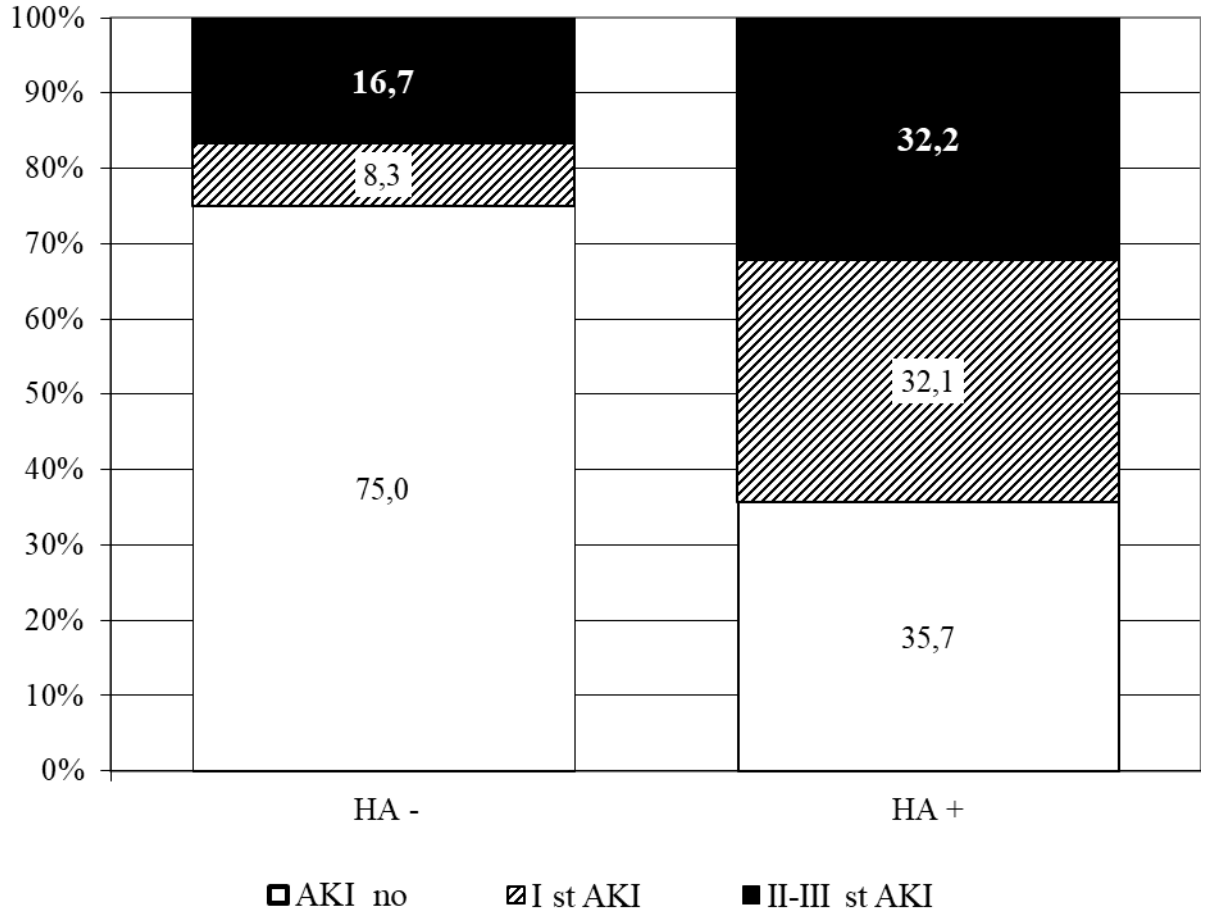

Fig. 1. The effect of chorioamnionitis on acute renal damage in premature infants with HSPDA. (3rd day)

After 3 days, this dynamic persisted. On the 5th day, AKI developed almost 3 times more often in children of group II ($p = 0.009$). The second stage of AKI was more common in children of group II, and the third stage was demonstrated only by children of group II, the lack of a significant difference is due to the limited number of samples. On the 7th day in group I, one child from the second stage developed the third, but the number of children with ARF in groups I and II differed significantly.

On the 10th day, AKI was not present in children of group I, while in group II it was still observed in a quarter of children ($p = 0.02$).

Summary and conclusions.

1. HA in the mother have a significant impact on the development of AKI in premature infants with HsPDA : AKI is 2.5 times more common in children than mothers with HA.

2. Against the background of HA in the mother, a severe form of AKI was observed in every third child, which is 2 times more often than without HA.

3. The presence of HA in the mother's history slows recovery from AKI in premature infants with HsPDA. In children from mothers without HA on the 10th day there was no AKI, while in a quarter of children from mothers with HA had signs of AKI.

4. Children with HsPDA and HA in the mother should be assigned to the group at risk of developing AKI.

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