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PHARMACOLOGICAL DUCTUS ARTERIOSUS TREATMENT IN INFANTS BORN AT 22-23 GESTATIONAL WEEKS

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Background: Improvements in neonatal care have increased survival rates for extremely premature infants. Patency of the ductus arteriosus is common among these infants and incidence relates inversely to gestational age. First-line treatment is COX-inhibitors, which is known to affect renal, pulmonary and cerebral blood flow and to increase risks of several morbidities. The efficacy of this treatment has not been confirmed in the very most preterm infants.

Aim: To investigate the efficacy of pharmacological ductus arteriosus treatment in infants born at 22-23 weeks of gestation.

Method: Infants born at 22-23 weeks of gestation at Akademiska children´s hospital between January 2006 and December 2010 were retrospectively identified and treatment and outcome parameters evaluated. Routine care for these infants included echocardiography during the first days of life and pharmacological treatment with indomethacin if echocardiographic or clinical signs of a hemodynamically significant ductus were present.

Results: Fifty-three infants were born at 22-23 weeks gestation and 22 received pharmacological treatment for ductus arteriosus. Seven infants received ibuprofen due to shortage of indomethacin. Four (18%) infants obtained lasting ductal closure after pharmacological treatment. Four infants spontaneously closed their ductus later, three died, one received a second ibuprofen course, eight carried on to secondary surgical closure and two were discharged with a still patent ductus.

Conclusion: Standard pharmacological treatment does not seem to effectively close ductus arteriosus in infants born before 24 weeks of gestation. Further research on treatment efficacy in this group is needed.