Extended Abstract

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Patent Ductus Arteriosus: How Aggressive Should We Be?

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Patent ductus arteriosus · Pharmacological treatment · Indomethacin · Ibuprofen

Abstract
Patent or persistent ductus arteriosus (PDA) remains a frequent problem in preterm infants and may complicate the course of respiratory distress syndrome. To avoid undesirable effects of left-to-right shunting through the PDA, closure by medical treatment or surgical ligation has been standard practice in neonatology for almost half a century. Indomethacin, a prostaglandin synthetase inhibitor, has been used for more than 30 years to induce closure of the PDA; however, failures and relapses are frequent in the smallest infants. The debate about optimal dosing schemes with minimal side effects and about the choice of the drug continues. Recent evidence demonstrated that ibuprofen is a reasonable alternative to indomethacin for early treatment of a PDA. It has different effects on regional circulations and influences cerebral circulation and oxygen delivery to the brain in a different manner. The prophylactic pharmacological approach has been extensively studied in the last few years and the benefits of such a strategy has become less obvious. Clinical practice has changed considerably in many neonatal units after the publication of some recent large trials. Recently it has also been suggested that postponing the pharmacological treatment of a PDA by a few days may avoid possible side effects and allow spontaneous closure of the ductus in a substantial number of infants without an increase in morbidity. The question is whether a PDA has to be considered as a primary pathologic condition or as an epiphenomenon of the associated disease in the preterm neonate. Ligation of the PDA guarantees its closure but may induce many untoward effects with long-term consequences. The chances of survival do not seem to be improved by any of these interventions. There are still very few data available that examine longer-term neurological outcome. We have to balance the short-term benefits and possible improved outcomes against the potential for a degree of 'harm' that might be associated with any one of the available interventions aimed to close the PDA. Copyright © 2007 S. Karger AG, Basel

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