

Ibuprofen for the closure of Patent Ductus Arteriosus in preterm babies – Network experience from two Neonatal Intensive Care Units

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Background- The use of ibuprofen in the treatment of Patent Ductus Arteriosus (PDA) in preterm babies is well established. Ibuprofen has been associated with oxygen dependency beyond 28 days of life (1). The purpose of this study was to assess the effect of ibuprofen on the closure of PDA and analyse the incidence of severe chronic lung disease measured by the need for home oxygen.

Method- This was a retrospective analysis of the data collected over a period of 3 financial years from two Neonatal Intensive Care Units in the Southern West Midlands Maternity and Newborn Network.

Results- There were a total of 93 preterm neonates identified to have had Patent Ductus Arteriosus (PDA). 86%(n=80) were ventilated at the time of treatment. Ibuprofen was commenced on an average on the eleventh day of life. Of those who received a single course of ibuprofen (n=38), 71%(n=27) were found to have no PDA at discharge. Of those who received a second course of ibuprofen (n=16), 38%(n=6) had no PDA at discharge. 23%(n=21) underwent surgical ligation. 2 of the 3 who had an incomplete course of ibuprofen had spontaneous closure of PDA. There were 10 deaths. 46%(n=43) were discharged on home oxygen.

Conclusion- Ibuprofen was shown to be effective in closing the duct in preterm babies. However the second course of Ibuprofen seemed less effective. Oxygen dependency in neonates at discharge was considerable. Though ibuprofen has known to have less immediate side effects compared to indomethacin, the long-term effects are yet to be established. We look forward to the randomised controlled study like OSCAR (Outcome of Selective early Closure of Patent Ductus Arteriosus in Preterm Babies) to help address the dilemma of managing PDA in preterm babies.

Reference

1. B Thébaud, T Lacaze-Mazmonteil, Patent ductus arteriosus in premature infants: A never-closing act. *Pediatric Child Health*. 2010 May-Jun; 15(5): 267-70.
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