ADVANCES IN PHARMACOLOGICAL TREATMENT OF PDA

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Patent ductus arteriosus (PDA) is a common problem and >65% of extreme preterm babies fail to close DA spontaneously. There is a growing controversy whether to treat or not to treat a PDA? Those who favour treatment, the timing of intervention vary from <24 hours to 2 weeks of age.

The proponents of conservative approach argue that in large proportion of babies (~58%) PDA would close spontaneously. The lack of evidence on improvement in short and long term outcomes in the reported randomised trials of pharmacological treatment of PDA have lead this group to adopt a conservative approach of limiting harm due to concerns about side effects of medical treatment. There is however no long-term data on safety of this approach.

There are three recognised approaches for medical management of PDA; Prophylactic treatment (commencing treatment in all babies within 6-12 hours of birth), Symptomatic treatment (treatment of symptomatic PDA, usually after 72 hours), or Targeted early treatment of an asymptomatic PDA (identifying large PDA and commencing treatment before it is symptomatic).

Both indomethacin & Ibuprofen have similar efficacy in closing a PDA. However, ibuprofen has less renal side effects and the risk of developing necrotizing enterocolitis is significantly reduced with ibuprofen compared to indomethcin [RR 0.68 (95% CI 0.47, 0.99)] when treating a symptomatic PDA.

The uncertainties surrounding treatment of PDA begs further evidence on safety of conservative approach and optimal timing of treatment. Future trials should address these issues and provide data on clinical & long term outcomes.