

Surveillance of Surgical Ligation of the Patent Ductus Arteriosus in Premature Babies

Beginning September 2012

Patent ductus arteriosus (PDA) will be added to the Orange Card for 13 months from September 2012. This will be the 7th Sir Peter Tizard funded project and will be run by the recipient of the award Dr Leona Lee and Dr Wilf Kelsall.

In this article Leona describes her project.

Premature babies who undergo surgical ligation of a PDA are often those with significant comorbidities and potential complications as described below. I am therefore very grateful to the British Paediatric Surveillance Unit and the Sir Peter Tizard Bursary for the opportunity to study this group of babies. The ductus arteriosus is a normal connection between the pulmonary artery and the aorta in the fetus but usually closes after birth. In premature babies the ductus arteriosus can remain open and is then called a patent ductus arteriosus (PDA). The abnormal flow of blood through the PDA has been associated with chronic lung disease, necrotising enterocolitis and retinopathy of prematurity. It can also cause symptoms of cardiac failure and poor growth. It is not always clear when a PDA becomes haemodynamically or clinically significant and therefore requires treatment. Medical treatment to close a patent ductus arteriosus is with non-steroidal anti-inflammatory drugs. If medical treatment is contraindicated or not successful, a small minority of premature babies are referred for surgical ligation of their PDA.

This UK study aims to determine the incidence of PDA ligation in premature babies under 37 weeks gestation. Case ascertainment will be maximised by involving paediatric cardiologist. We will report the distribution by gestational age, birth weight, sex and ethnicity. In these babies we aim to describe:

1. The investigations including echocardiography and clinical management, including use of NSAIDs, prior to surgical ligation
2. The respiratory and cardiovascular support of these babies at the time of PDA ligation
3. The ages at ligation
4. The post-ligation complications
5. The presence of chronic lung disease, necrotising enterocolitis, retinopathy of prematurity and intraventricular haemorrhage

Case definition: Any baby born before 37 completed weeks of gestation, without any other structural cardiac abnormality, who has undergone surgical ligation of a patent ductus arteriosus before first discharge home.

Please report any baby who fulfils the case definition above.

Please note that a patent foramen ovale is not considered a structural cardiac abnormality.

Ethics approval: This study has been approved by NRES Committee East Midlands - Derby (Ref: 12/EM/0149) and has been granted Section 251 NIGB permission under reference: ECC 3-02(FT6)/2012.

Public information leaflet: Available at www.rcpch.ac.uk/bpsu/pda

Further information: If you would like any advice regarding the eligibility of a particular case for inclusion in the study please contact:

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