REVIEW OF PROSTAGLANDIN USE IN A TERTIARY NEONATAL INTENSIVE CARE UNIT

Rahul Prasad, Hannah Wood, Oscar Nolan and Shree Vishna Rasiah

Birmingham Women's and Children's Hospital NHS Foundation, U.K.

Introduction

- Prostaglandin is predominantly used when a duct-dependent cardiac lesion is suspected or identified.
- Most of the cardiac lesions are diagnosed in the antenatal period by foetal echocardiography. Postnatal diagnoses are made based on clinical signs or failed pulse-oximetry screening that has prompted postnatal echocardiography.
- Prostaglandin is also used in the management of severe persistent pulmonary hypertension of the newborn (PPHN).
- We audited the use of prostaglandin in our tertiary neonatal intensive care unit (NICU).

Aim

- Review of prostaglandin use in a tertiary neonatal intensive care unit between 01/04/2009 and 31/03/2018

Methods

- Babies treated with prostaglandin between 01/04/2009 and 31/03/2018, were identified from the BadgerNet electronic patient record.
- Each individual patient record was reviewed to collect data on indication, diagnosis and outcome using a standardised proforma.

Results

- Of the 307 babies who were started on prostaglandin – 77% (236) of babies had an antenatal cardiac diagnosis that required prostaglandin in the post natal period.

Results

- 10% (32) of babies had postnatal signs requiring prostaglandin.
- 7% (22) of babies were started on prostaglandin had a diagnosis of congenital diaphragmatic hernia.
- Finally 6% (17) of babies failed pulse oximetry and were started on prostaglandin.
- Of the 17 babies that failed pulse oximetry, 65% were diagnosed with a duct-dependant cardiac condition which was not diagnosed in the antenatal period and 35% had PPHN.
- The duct-dependent cardiac lesions diagnosed following failed pulse oximetry included 3 babies with transposition of the great arteries, 4 babies with left ventricular outflow tract lesions and 4 with right ventricular outflow tract lesions.
- Overall, 83% of babies were transferred to the specialist centre, 7% of babies were discharged home and 10% of babies died on the neonatal unit.

Indications for Prostaglandin Use

Conclusions

- Antenatally diagnosed duct-dependent cardiac abnormalities were the predominant indication for prostaglandin administration. As the regional surgical centre for managing antenatally detected CDH, we use prostaglandin for the management of severe PPHN in these babies.
- Pulse-oximetry screening was helpful in the postnatal detection of duct-dependent cardiac abnormalities in asymptomatic babies with a 'normal' foetal anomaly scan