Medical Xpress

Errors are reducing the effectiveness of anti-D injections in pregnant women

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Too many clinical errors are occurring with the requesting and administration of anti-D prophylaxis to prevent Rhesus Haemolytic Disease of the Fetus and Newborn (Rh HDFN) in pregnant women, according to a Manchester academic.

Dr Paula Bolton-Maggs, from The University of Manchester and Director of the Serious Hazards of Transfusion (SHOT) national haemovigilance scheme based in the Manchester Blood Centre which was published this week.

Rh HDFN (also known as Rhesus Disease) is a condition where antibodies develop in a pregnant woman's blood and subsequently destroy the blood cells of the baby she is carrying.

All women with a RhD negative blood reading during their antenatal screening are offered prophylaxis with anti-D immunoglobulin (anti-D Ig), as an injection at different stages of pregnancy and postpartum to prevent this happening.

The study, funded by the UK Blood Services, looked at records between 1996 and 2011 taken from the Serious Hazards of Transfusion (SHOT) reporting system, the UK confidential haemovigilance scheme that records adverse transfusion events and their causes.

Over the 15 year period there were 1,211 errors recorded with a steady increase in reports each year. Overall, clinical errors were responsible

for 72.5% of all reports and laboratory errors for 27.5%.

The main cause for errors was omission or late administration of anti-D Ig with 609 (50%) of all reported cases, of these 90% occurred through avoidable clinical errors such as delayed administration, inadequate labelling and poor documentation.

Other areas of concern for errors included 280 (of the 1,211 errors) cases of anti-D Ig being wrongly administered to women with a Rhd positive blood type, 108 cases administered to women who were already sensitised to RhD and 50 cases due to inadequate storage and stock management.

These errors resulted in 19 cases where detectable anti-D Ig was wrongly attributed to prophylaxis, nine cases of babies suffering Rh HDFN with one neonatal death and three instances where babies required red cell transfusion support.

The paper concludes that there are significant problems relating to poor practice in this area. It calls for further education and training for obstetric staff both in hospitals and in the community to help reduce the rate of errors.

Dr Paula Bolton-Maggs from the SHOT Office, University of Manchester and co-author of the study said: "Our findings show that over the 15 year reporting period the same mistakes were being made repeatedly by clinical and laboratory staff. Clinical errors have the greatest potential for harm because once the woman is sensitised to RhD it places her current and any future pregnancies at risk. Failure of staff to follow basic protocols, poor communication and inadequate interpretation of laboratory records compounds a poor understanding of the significance of good practice around anti-D Ig in maternity services. These are clinically significant problems that require active attention at a

national and local level as reported errors could be avoided by putting in place appropriate checks."

The research has been published in *BJOG: An International Journal of Obstetrics and Gynaecology*. John Thorp, BJOG Deputy-Editor-in-Chief, added: "Haemolytic disease caused by anti-D Ig is a preventable cause of death and serious morbidity. It often requires neonatal care admissions and transfusions for newborns in severe cases. If left untreated it can lead to future learning difficulties, blindness, deafness, cerebral palsy or stillbirth. Nowadays it is fairly uncommon due to the administration of the generally successful anti-D Ig prophylaxis programme. However, this literature shows strong evidence of potentially avoidable errors that are still putting babies and mothers at risk. Further education and training on anti-D could lead to better outcomes and improve patient safety."

More information: Bolton-Maggs, P. et al. Errors in anti-D immunoglobulin administration: retrospective analysis of 15 years' reports to the UK confidential haemovigilance scheme. *BJOG* 2013. dx.doi.org/10.1111/1471-0528.12175

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