Background Inflammation and infection are important aetiological factors in development of preterm birth. Inflammation is associated with many disorders of preterm infants including periventricular leukomalacia, chronic lung disease and necrotising enterocolitis.

Aims To compare neutrophil and monocyte responses to lipopolysaccharide (LPS) +/-APC (activated protein c) stimulation in preterm neonates <32 weeks gestation with adults controls.

Methods Whole blood was incubated with LPS +/-APC and Toll-like receptor4 (TLR4), CD11b expression, and reactive oxygen intermediate (ROI) release from neutrophils and monocytes was examined by flow cytometry.

Results Both adults (n=15) and preterm neonates (n=30) had significantly increased LPS induced neutrophil CD11b expression but preterm are less responsive than adults. There was a significant increase in neutrophil ROI in response to LPS in adults and preterm neonates on day 1 and this was significantly reduced by APC. There was significant higher baseline and endotoxin response of monocyte ROI in preterm neonates compared to adult (p<0.05). However APC had not reduced this response.

Conclusion Increased ROI release may mediate tissue damage and was significantly increased in preterm neonates and adults. APC reduced LPS-induced neutrophil ROI release. This may benefit preterm neonates at high risk of multiorgan inflammatory disorders but they are at high risk of haemorrhage. Further examination of APC mutants with anti-inflammatory but decreased anticoagulant properties is merited.

LATE ONSET SEPSIS IN PREMATURE INFANTS. ARE WE ABLE TO PREDICT WHO IS SEPTIC OR NOT?

K Gorman, M Dominguez, N Mc Callion. Department of Paediatrics, Rotunda Hospital/Royal College of Surgeons in Ireland, Dublin, Ireland

Aim To prospectively assess staff prediction of culture positivity, clinical signs noted and suggested duration of antibiotic therapy required at the time of septic screen in premature infants suspected of having late onset sepsis.

Methods This was a prospective study involving anonymous staff questionnaires filled out by both nursing and medical staff at the time of septic screens performed for suspected late onset sepsis in the neonatal intensive care unit (NICU) of Rotunda Maternity Hospital, Dublin from October 2009 to 2010. Eligibility criteria was neonates and missed none. This was a prospective study involving anonymous staff questionnaires filled out by both nursing and medical staff at the time of septic screens performed for suspected late onset sepsis in the neonatal intensive care unit (NICU) of Rotunda Maternity Hospital, Dublin from October 2009 to 2010. Eligibility criteria was neonates. Staff opinion on the likelihood of positive BC was correlated with laboratory results and treatment course.

Results Total of 60 surveys collected in the twelve month period. Information is available from 56 septic work ups carried out on 37 infants during twelve month period on infants who fulfilled the criteria. Doctors correctly guessed if the infant was septic or not at the time of work up 58.3% compared to 56.3 % of nursing staff. There was no statistical significance between C-reactive protein, white cell or neutrophils counts between positive and negative cultures.

Conclusion Experienced doctors and nurses were unable to accurately predict which neonate would have a positive culture. This highlights the difficulty in the NICU setting of judging correctly who is septic in very low birth weight infants.
1191 Late Onset Sepsis in Premature Infants. Are we Able to Predict Who is Septic or Not?

K Gorman, M Dominguez and N Mc Callion

Arch Dis Child 2012 97: A341
doi: 10.1136/archdischild-2012-302724.1191

Updated information and services can be found at:
http://adc.bmj.com/content/97/Suppl_2/A341.1

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/