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

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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 defined as premature infants (< 34 weeks gestation) and > 5 days old undergoing septic work up for suspicion of infection. Prospective review of all blood, urine and CSF cultures obtained from the neonates. Staff opinion on the likelihood of positive BC was correlated with laboratory results and treatment course.

Results Total of 30 surveys collected in the twelve month period. Information is available from 56 septic work ups carried out on 37 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.

HOW TO USE C-REACTIVE PROTEIN IN SEPTIC SCREENING OF TERM AND NEAR TERM NEWBORNS?

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Background and Aims Early onset sepsis is a serious condition, with challenging diagnosis.

C-Reactive Protein cut-off values for treatment vary according to different authors and protocols from 5 mg/L to 50 mg/L.

The objective of this study was to determine the CRP cut-off value in septic screening of term and near term NB.

Methods All NB with gestational age (GA) ≥ 35 weeks admitted to the nursery of a tertiary hospital in the course of one year, with risk for early neonatal sepsis where included.

We collected data from all analysis (CRP/CBC) until treatment decision, peripheral blood-culture and clinical findings.

A positive septic screening (indicating treatment) resulted from a score involving CRP and leukocyte/neutrophil count.

Newborns were thereafter included in the category “presumption of infection” (POI) if they met at least one of the following criteria: CRP > 50 mg/L; maternal sepsis; NB with positive blood-culture; several positive markers and subtle clinical features; multiple risk factors and subtle clinical features.

Results From 2478 NB admitted, 193 were included, mean GA 38.7 weeks. CRP for untreated NB varied between 10 and 16mg/L. Those that underwent antibiotic therapy had CRP values between 10 and 15mg/L.

CRP for NB with POI varied between 22 and 151mg/L, treated but with no late presumption of infection between 10 and 48mg/L.

A cut-off level of 20mg/l would have selected 16 without POI and missed none.