

C-reactive protein and bacterial infection in preterm infants

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Date: 1990-03

Abstract

Serum C-reactive protein (CRP) concentration was measured by a new solid phase ligand-binding radiometric monoclonal antibody immunoassay in a prospective study of 193 consecutively born preterm infants. In 104 with no clinical or laboratory evidence of infection the median CRP in cord serum was 0.125 mg/l (range 0.011-6.0 mg/l), at 24 h it was 1 mg/l (0.016-7.0) and at 48 h 2 mg/l (0.400-8.0). The present highly sensitive assay has enabled these normal ranges to be defined for the first time, at levels below the threshold of non-labelled immunoassays and of all commercially available CRP assays. The values in cord serum were significantly lower than in normal healthy adults (median 0.8 mg/l, range 0.07-29 mg/l, n = 468). Arterial catheterisation and endotracheal intubation, in the absence of infection, did not appear to elevate CRP, nor did cerebral germinal layer or intraventricular haemorrhage. Among nine infants with confirmed septicaemia eight had a serum CRP level raised at least once during the first 48 h and serum CRP in the other one increased 250-fold in 24 h before treatment was started. Using this assay, serum CRP is a useful and rapidly available adjunct to clinical assessment in diagnosis and exclusion of bacterial infection in the early neonatal period, has encouraged us to withhold or discontinue antibiotics and also has a role in monitoring response to treatment.