Dear Editor,

The microbiological pattern of early onset neonatal sepsis (EONS) is different from late onset sepsis and is associated with several peri-natal risk factors. In view of the high mortality associated with this condition septic screening is carried out and empirical treatment with antibiotics started in the presence of two or more of these risk factors, resulting in a large number of babies receiving unnecessary antibiotics. In order to identify these risk factors and the infective organisms so that empirical treatment with antibiotics could be more focused in our hospital, (a private sector teaching hospital providing level III care) a small case control study was carried out.

The study group comprised of 32 consecutive babies with clinical features of sepsis and less than seven days of age and 60 randomly selected well babies discharged without any clinical evidence of sepsis during the same period formed the controls. Blood culture was sent for all babies and C reactive protein for 25 babies suspected to have sepsis. Other relevant investigations were done as needed.

The incidence of EONS in the study period was 34/1000. A positive blood culture was obtained in 13 babies with sepsis (40.6%) which is similar to that reported by Kaushik and Rao but lower than that observed by Tallur. C reactive protein was positive (more than 8mg/dl) in 32% (8/25). The most common pathogen identified in our study was Klebsiella pneumoniae (6/13) which is similar to that reported by others. However, group B streptococci and E. coli, which are common pathogens, causing early neonatal sepsis in the western countries were not seen in this study. Other organisms isolated were coagulase negative Staphylococcus (3/13), Pseudomonas spp (2/13), Micrococcii spp (1/13) and A fecalis (1/13). The parameters considered for analysis of risk factors were antenatal care, birth order, birth weight, gestational age, gender, maternal fever, premature rupture of membranes (PROM), mode of delivery, birth asphyxia and meconium-stained liquor. Significant risk factors for EONS identified in this study by uni-variate analysis were pre-term and low birth weight babies, gravida less than or equal to two, maternal fever and PROM for more than 16 hours while multivariate analysis showed only pre-term delivery and PROM for more than 16 hours to be significant risk factors which is similar to the observations of other investigators.

An interesting observation was that out of five mothers who had fever at the time of delivery, four had babies with a positive blood culture. Likewise, out of eight babies who had a positive CRP, six had a positive blood culture. However, this association between maternal fever, positive CRP and positive blood cultures is not statistically significant and needs a larger study to substantiate the observation.

In conclusion, significant peri-natal risk factors for EONS, identified in this study, were prematurity and rupture of membranes more than 16 hours and the most common infective organism was Klebsiella pneumoniae.

References


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