Neonatal Meningitis due to Neisseria meningitidis Serogroup Y

Neonatal meningococcal meningitis is very rare; among the existing 13 serogroups of Neisseria meningitidis, serogroups B, C and Y have been reported in neonatal meningococcal meningitis [1-3]. Here we report isolation of N. meningitidis serogroup Y from the cerebrospinal fluid of a neonate which to the best of our knowledge is the first report from India. This could alert the clinicians to keep an index of suspicion for this bacterium in the etiology of neonatal meningitis.

A 38-week-gestation male baby, born by Caesarean section to a 32 year old multigravida in a district hospital with a birth weight of 2500 grams, presented on 14th day of life with symptoms of lethargy and refusal to feed. He had no history of seizure, apnea, or fever. On examination he had bulging anterior fontanel and hypotonia. He was afebrile and no skin rash or petechiae was seen. Sepsis screen was found positive with a C-reactive protein value of 2.76 mg/dL (Normal: 0.5mg/dL). The total leucocyte count was 4485 cells/mm³. Blood culture was negative. The CSF biochemical and cytological para-meters revealed protein 65 mg/dL, sugar 35 mg/dL, and a cell count of 4cells/mm³ (all lymphocytes). No bacteria were seen on direct Gram staining. CSF culture showed growth of Neisseria meningitidis whose identification was based on colony appearance, gram stain and biochemical tests. Identification was confirmed using polymerase chain reaction targeting the conserved regulatory gene crg A using established primers [4]. Slide agglutination with N. meningitidis antisera (Difco, BD Diagnostics) confirmed it as N. meningitidis Serogroup Y. Nasopharyngeal swabs from both parents were negative for the bacterium. The neonate recovered following treatment with amikacin for 7 days and piperacillin-tazobactam for 21 days.

To the best of our knowledge there exists only one previous case of neonatal meningitis associated with sepsis due to Serogroup Y who had a favourable outcome [3]. Previous authors have remarked on the importance of a lumbar puncture to avoid missing the diagnosis in this age group [5]. In the present case, even though the CSF biochemical parameters were not suggestive of meningitis, culture was helpful and demonstrated the existence of this rare pathogen.

Acknowledgement: The authors acknowledge Dr Reeta Bora, Associate Professor of Pediatrics, Assam Medical College, Dibrugarh for providing us clinical details of the patient and for her inputs in preparing the manuscript.

References