

## A STUDY OF HOSPITAL ASSOCIATED MENINGITIS IN A NEONATAL UNIT OF A TERTIARY CARE HOSPITAL IN DELHI, INDIA

K. Gupta<sup>1</sup>, V.S. Randhawa<sup>1</sup>, A. Saili<sup>2</sup>, A. Kumar<sup>2</sup>, S. Khare<sup>3</sup>, R. Dutta<sup>1</sup>

<sup>1</sup>Microbiology, <sup>2</sup>Pediatrics, Lady Hardinge Medical College, <sup>3</sup>Microbiology, National Centre for Disease Control, Delhi, India

**Background and aims:** Limited data on epidemiological profile of hospital associated meningitis (HA-M) in neonates in India led to the present one year prospective study at Lady Hardinge Medical College and Smt. Sucheta Kriplani and Kalawati Saran Children's Hospitals, Delhi.

**Methods:** The key inclusion criteria were,

(I) age: 0-28 days,

(II) stay beyond 48 hours of admission, and

(III) absence of congenital malformations. The diagnosis was based on CDC guidelines. Blood culture was performed where indicated. Inoculation in Hep-2 cell lines was done for enterovirus isolation. Serological tests for coxsackievirus B1-6 and parvovirus B-95 were undertaken. Antimicrobial susceptibility testing was done using CLSI guidelines. More than twenty risk factors were studied and analyzed using EpiInfo software.

**Results:** Out of 591 neonates enrolled, 32 episodes of HA-M were reported with an incidence of 5.41 HA-M per 100 admissions. 34.4% cases of HA-M (i.e. highest incidence) occurred in March. Approximately 59.4 % meningitis occurred on day 3/4 of admission. The commonest clinical signs were lethargy and irritability. Approximately 65.6% of the cases were culture positive. *Escherichia coli* was the most commonly implicated pathogen. Other key pathogens isolated were *Klebsiella* spp. and *Staphylococcus aureus*. The antimicrobial susceptibility pattern varied. Viral etiology could not be established. Birth weight < 2500gms, resuscitation by intubation at birth and total parenteral nutrition were significant risk factors.

**Conclusions:** Infection control practices need to be strictly enforced to reduce the current incidence of HA-M in the neonatal unit.