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Non-detection of neural tube defect during pregnancy in sub-urban population of northern India

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Background: Neural tube defects (NTDs) are one of the most common congenital anomaly with incidence varying from 4 to 19 per 10,000 live births worldwide. NTDs often lead to abortion, still birth, neonatal mortality or serious permanent disability and place a heavy burden on families and society. Primary prevention with folic acid supplementation has been considered as an option but it has poor popularity, poor compliance and limited function. Antenatal diagnosis of neural tube defect with assessment of serum markers like maternal alpha feto-protein, acetylcholine esterase and antenatal ultrasonography (USG) has been standard and effective investigations and such secondary preventive measures are playing important role in control of NTDs.

Aim: In the present study, we investigated the cases of NTDs presenting to our unit for management and explored the status of the antenatal management including ultrasonography in sub-urban population of northern India.

Materials and Methods: It was a prospective study conducted from January 2012 to June 2012. We documented the education level, socio-economic status of parents, family history, places of antenatal check up, intake of iron and folic acids, awareness of neural tube defects and role of folic acid in prevention, details of antenatal USG and clinical examinations of the affected child with NTD.

Results: Total 52 patients were examined during the study period. Most of the parents were from low socioeconomic status and had low education. Folic acid was taken by 71% expectant mothers but all after 12 weeks of gestation. The uptake of USG was 87%. However, there was no fixed protocol of antenatal USG and the number varied between 1 to 12 times (once 16, twice 14, thrice 6 and more than 3 times in 5). Neural tube defect (NTD) was diagnosed in 27% cases only. In 5 cases, NTD was diagnosed at or before 20 weeks; however, no action was taken. About 65% of NTDs were located in the lumbar and lumbo-sacral region and 27% had complete flaccid paralysis of both lower limbs.

Conclusion: Antenatal care in sub-urban population in northern India is suboptimal and there is no awareness about use/role of folic acid and congenital anomalies in children especially neural tube defects, among the common population. There is a obvious missing link between the parents, the radiologists and the obstetrician.

Biography

Santosh Kumar Mahalik has completed his MS degree in General Surgery from Banaras Hindu University (BHU), Varanasi in 2008 and MCh in Pediatric Surgery from Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, in 2011. He is currently working as Consultant Pediatric Surgeon in Krishna Institute of Medical Sciences (KIMS), Secunderabad. His main interest in pediatric surgery is in the field of Pediatric Urology and Pediatric GI Surgery. He has published more than 15 papers in reputed national and international journals and member of ASI, IAPS, PESI, and AMASI.

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