

## LETTER TO EDITOR (VIEWERS CHOICE)

### ROTATION OF HEAD TO ONE SIDE - A RARE SIGN OF MENINGEAL IRRITATION

Gopal Shankar Sahni

**Keywords:** meningitis, rotation of head to one side, infant

A 5 months old male infant presented with rotation of his head to one side persistently for 6-7 hours. On attempting to turn the head of infant to neutral position, the infant again turned his head to one side. There was no history of trauma, physical abuse, cough, vomiting, or irritability. The child was born full term, normal delivery without use of any instruments (forceps) at a private hospital. There was no history of birth asphyxia, or neonatal jaundice. He passed meconium and urine at normal time. Developmental milestones were normal. On examination, the child was well, alert and comfortable. Anterior fontanel was open and full but not tense. Head circumference was 41cm, weight was 7 kg. There was no localized tenderness at neck, throat examination was normal. The child was put under observation. On second day, child developed one episode of convulsion which was generalized tonic-clonic in nature. On examination, child was conscious, febrile (100°C) and anterior fontanel was now bulging. Lumbar puncture was done. Cerebrospinal fluid (CSF) examination showed 70 cells/cumm (all lymphocytes) with protein 110 mg/dl and sugar 30mg/dl with corresponding blood sugar of 82mg/dl. CSF for acid fast bacilli was negative. Chest X-ray was normal but mantoux test was positive (15mm). CT brain showed hydrocephalus and basal exudates. There was history of contact with an adult having open tuberculosis. Subsequently, a diagnosis of TBM was made. Patient was treated with anti-tubercular chemotherapy and short course of steroid with full recovery.

Meningeal irritation is considered highly indicative of meningitis, is defined as presence of one or more of the following six symptoms: neck stiffness, Brudzinski's nape of the neck and/or contralateral leg sign, Kernig's sign, or the tripod-phenomenon in children >1 year and one of the previous signs or irritability or a bulging fontanel in children <1 year. (1,2) In early infancy, neck stiffness is seldom present, but it does not rule out meningitis. (3) Inflammation of meninges is the basic pathology in producing the signs of meningeal irritation. Meningeal irritation presents with features of meningismus caused by reflex spasm of paravertebral muscles. Cervical muscles spasm produces neck-stiffness while lumbar muscles spasm manifests as positive Kernig's sign. (2) The genesis of meningeal signs is best explained on the basis of mechanical factors. (3, 4) Manoeuvres that stretch the inflamed neural elements and meninges of the spinal canal induce pain and protective muscle spasm and lead to postures designed to minimize tension on the inflamed

structures. For example, on attempting to sit up, the patient adopts the tripod supporting posture with back and neck extended, and hips and knees flexed and neck stiffness consequent to passive neck flexion. (5, 6) In the present case, the infant was not able to keep his head in neutral position and turned it to one side to minimize the tension on the cervical muscle, which may be a sign of meningeal irritation. The main intention of reporting this case is to raise the awareness of possibility of meningitis in patient who adopts an unusual posture.

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**From:** Department of Pediatrics, S. K. Medical College, Muzaffarpur, Bihar, India.

**Address for Correspondence:** Dr. Gopal Shankar Sahni, Department of Pediatrics, S.K. Medical College, Muzaffarpur, Bihar, India.

**Email:** dr.gopalshankar@yahoo.com.au



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