Intraventricular Migration of an Entire VP Shunt

Proximal migration is a rare complication of the ventriculoperitoneal shunt for congenital hydrocephalus. The sites reported for proximal migration include subgaleal space(1), scalp(2), subdural space, cavity of a subdural hematoma and ventricles(3,4). We encountered proximal migration of an entire ventriculoperitoneal shunt into the ventricles and would like to share our experience.

A 6-month-old baby presented with increase in size of head since birth. The clinical diagnosis was congenital obstructive hydrocephalus, which was confirmed by CT scan. A ventriculoperitoneal shunt was placed (Chabbra shunt - medium pressure). On the second postoperative day, there was subcutaneous collection of CSF around the valve assembly. The shunt was functioning. The baby was discharged on the 9th POD when the perishunt collection had decreased. At 4 weeks follow up, the shunt could not be palpated in its position and the perishunt collection had disappeared. The anterior fontanelle was depressed and the head circumference was 46 cm. The skiagram showed the entire shunt in the ventricle (*Fig. 1*). Shunt removal and revision was advised but parents did not turn up for surgery.

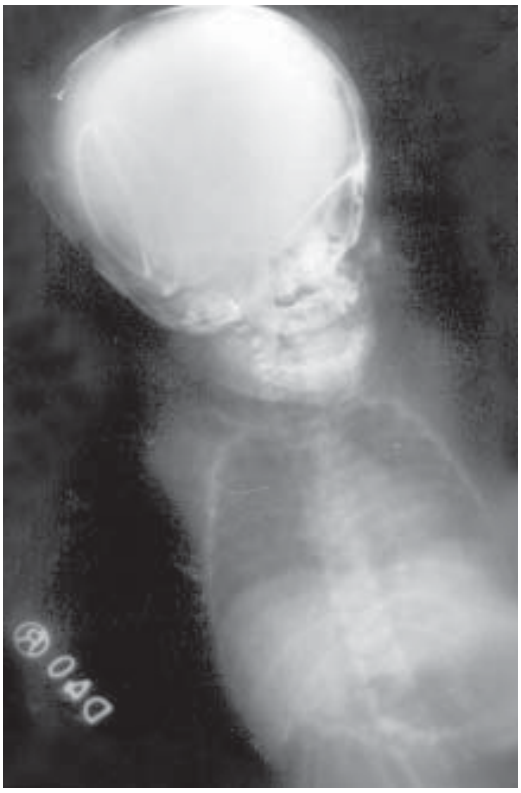

Fig. 1. Skiagram showing the entire ventriculoperitoneal shunt migrated into the ventricles.

For migration to occur, the shunt needs to be under traction and to be able to move in the subcutaneous tissue. Traction requires a point of fixation and patient growth. Inflammatory granulation tissue noted around migrated catheters might act as an anchoring point for the "windlass effect" for migration of the shunt(2). Host reaction to foreign material of the shunt tubing results in degeneration and calcification leading to shunt failure. Younger patients with more potential for growth have a greater risk of shunt fracture or dislocation. Tortuous subcutaneous tract associated with neck movements, negative sucking intraventricular pressure and positive pushing intra-abdominal pressure have been thought to contribute to migration(3). Making a large dural hole around the ventricular catheter may predispose to periventricular CSF collection and easy migration of the valve system(2). Most migrations occur in the early postoperative period up to 3 months(3,4). Mechanical pressure over the valve by massaging might have led to the migration in our case in the presence of surrounding perishunt collection. A mechanism of

'retained memory' of the shunt tubing has also been proposed as the appearance of the coiling was similar to that in the packaging when supplied(1).

The treatment recommended for ventricular shunt migration is removal of the migrated shunt tube and replacement as though the patient may remain asymptomatic, visual field defects have been reported(4,5).

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Acute Lead Encephalopathy with Optic Neuropathy

Lead encephalopathy and the resulting neurological sequelae are an entirely preventable problem with no coherent preventive strategies in India. We fail to manage many cases of lead encephalopathy due to lack of diagnostic facilities and poor availability of chelators such as calcium sodium versenate, dimercaprol, or succimer.

An 11-month-old girl was brought with a history of ingesting a metallic object used for fishing, 15 days prior to admission. She had fever, vomiting, constipation for 3 days, convulsion and absence of menigeal signs or neurological deficits. She had normal fundus, cerebrospinal fluid (CSF), total and differential leukocyte counts and normocytic hypochromic anemia (Hb 8 g/dL). Plain radiograph of the abdomen revealed a radio-opaque foreign body of size 0.5 × 1.5 cm in left hypochondrum, which was subsequently not observed in the stool (*Fig. 1*). On 4th day of hospitalization she developed signs of raised intracranial tension and then lapsed into shock. The serum electrolytes were normal and the CSF remained normal. Blood was withdrawn for lead levels that were 129 µg/dL by flameless atomic absorption spectrophotometry. She was treated with D-penicillamine (30 mg/kg/day), the only available chelator in the market. She was also given supportive treatment for raised