Scrotal migration of ventriculoperitoneal shunt

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Accepted 13 March 2014

DESCRIPTION

A 1-year-old male child with type II Chiari malformation who underwent ventriculoperitoneal (VP) shunt placement 11 months ago presented with right scrotal swelling.

Frontal radiograph of the chest and abdomen (figure 1) showed the shunt tube in the abdomen which was twisted and kinked in its mid portion and its distal end coiled in the right scrotum.

Surgical exploration revealed bilateral patent processus vaginalis through which the VP shunt had migrated into the right scrotum. Repositioning of the shunt and repair of the bilateral hernia was performed to prevent further complications and malfunctioning of the shunt.

VP shunt commonly used to treat hydrocephalus is associated with numerous complications, which

include shunt migration. Migration of the distal segment of VP shunt into the abdominal wall, hollow viscus, vagina, scrotum, bladder and mediastinum has been described previously.¹ The incidence of distal migration of VP shunt is reported to be 10%.² In a study of 108 children with VP shunt, the incidence of scrotal migration was found to be 3.7%.³

Processus vaginalis remains patent in 90% of males at birth, 50–60% at 1 year, 40% in 2–16 years and 15–30% in adulthood.⁴ Smaller peritoneal cavity in paediatric patients, which is distended due to draining cerebrospinal fluid, prevents the obliteration of the processus vaginalis and facilitates migration of the VP shunt into the scrotum.⁵

Scrotal migration of the VP shunt can cause secondary hydrocoele and shunt malfunction leading to worsening of the hydrocephalus. Bilateral herniotomy with repositioning of the shunt tube is the treatment of choice.

Figure 1 Frontal radiograph of the chest and abdomen showed shunt tube in the abdomen which was twisted and kinked in its mid portion and its distal end coiled in the right scrotum.

Learning points

- Possibility of migration of shunt should be suspected in case of scrotal swelling in children with ventriculoperitoneal shunts.
- Plain radiograph is a simple screening modality to assess the position of the ventriculoperitoneal shunt.
- Bilateral herniotomy with repositioning of the shunt tube is the treatment of choice.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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To cite: Shankar B, Narayanan R, Paruthikunnan SM, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-204404

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