Title
A rare case of ventriculoperitoneal shunt malfunction due to scrotal migration of the peritoneal catheter

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Neurosurgical Image

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Abstract
The authors describe an unusual cause of ventriculoperitoneal shunt malfunction presenting as acute hydrocephalus.

Neurosurgical Image
A 27-year-old male with a background of neonatal post-haemorrhagic hydrocephalus managed with ventriculoperitoneal (VP) shunt presented with three weeks of progressively worsening positional headaches, vomiting, and neck stiffness. He was found to have papilloedema, but an otherwise normal neurological examination.

Computed Tomography (CT) demonstrated a right parietal ventricular catheter in discontinuity from the shunt valve and distal tubing [Figure 1A]. Shunt series found no further disconnection, but the inferior end of the tubing was not visualised on the abdominal radiograph [Figure 1B].

During surgery the valve and peritoneal catheter were noted to be broken from the ventricular catheter, which had migrated cranially. Opting to leave the cranial catheter in place, a new right parietal ventricular catheter was inserted [Figure 1C]. The peritoneal tubing was found to be draining freely, and therefore not revised.

Postoperative abdominal radiograph showed the distal shunt tubing was prolapsed into the right scrotum [Figure 1D]. On examination the patient had a soft, reducible inguinal hernia, and was asymptomatic. The patient recovered well, was discharged, and later treated with elective hernia repair, during which the distal catheter was not encountered.

We hypothesise that as the peritoneal catheter prolapsed into the scrotum, it applied tension to the proximal catheter and valve, rendering it vulnerable to breakage with movement of the testicle. Shunt catheter prolapse into the scrotum is recognised in the paediatric population due to the unobliterated

processus vaginalis, however there are only two published adult cases, both presenting with scrotal symptoms.[1,2] We believe this is the first described incidence in an adult to cause acute hydrocephalus. This case is a reminder to ensure adequate imaging of the entire shunt, and to be watchful for multiple points of malfunction.

References

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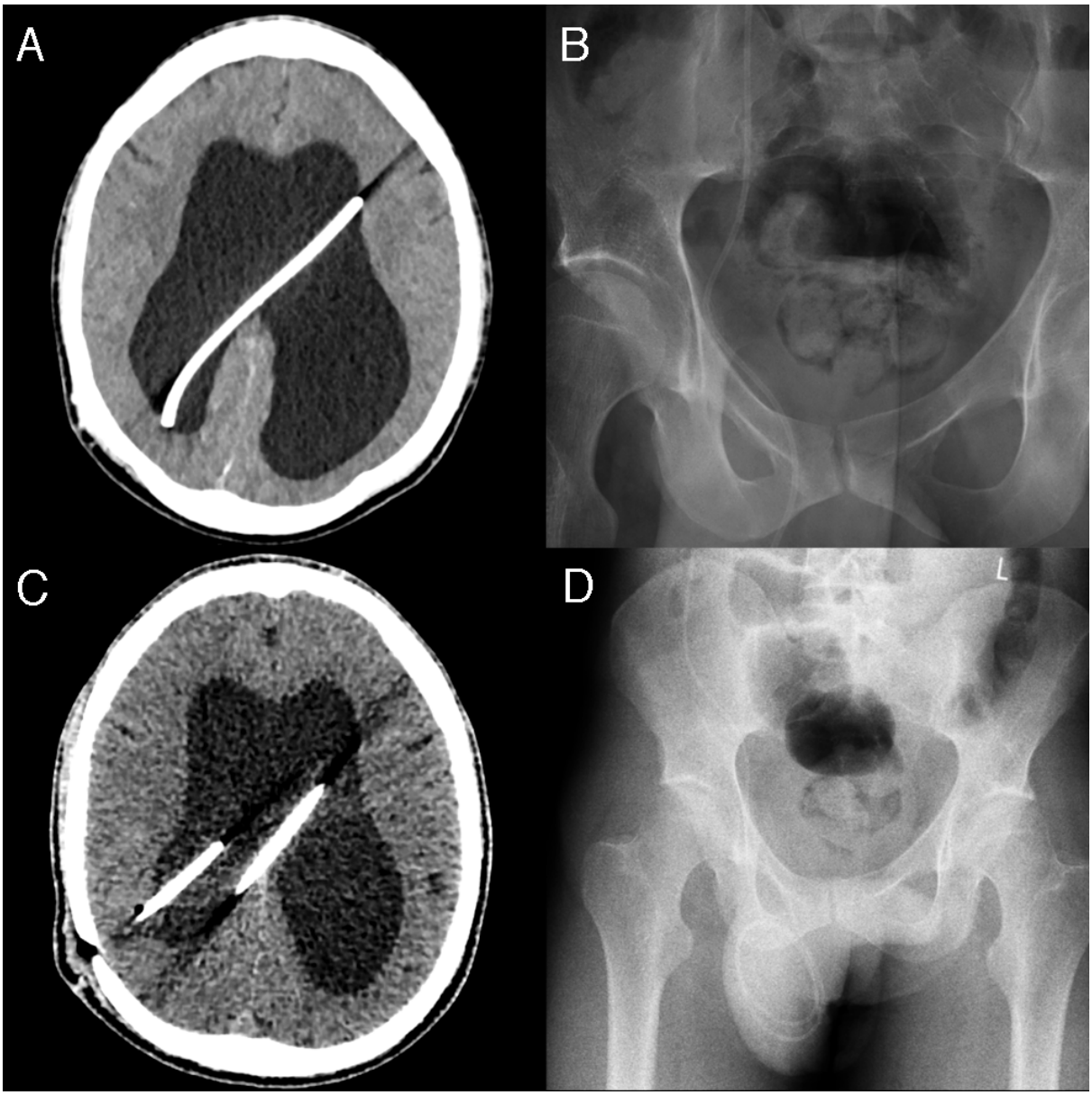
Disclosures

None.

Figures

1A: Axial CT at presentation demonstrated a disconnected ventricular catheter.
1B: Pre-operative abdominal radiograph did not show the entire peritoneal catheter.
1C: Post-operative axial CT scan showing positioning of the new ventricular catheter
1D: Post-operative abdominal radiograph found the peritoneal catheter was prolapsed into the scrotum.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