CORRESPONDENCE

Epidural blood patch treatment for headache caused by a ruptured Tarlov cyst

Fatemah Qasem, MBBCh, MD · Charlotte McCallum, ACNP, GDipNPAC ·
Paidrig Armstrong, MD, FRCPC

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To the Editor,

Tarlov cysts are cerebrospinal fluid (CSF)-containing nerve root cysts that arise between the perineurium and the endoneurium near the dorsal root ganglion. They are found most often in the sacral roots¹ and, rarely, cause symptoms related to nerve root compression.² The literature is limited when it comes to the management of these ruptured cysts.

We recently treated a previously healthy 24-yr-old woman (who consented to this report) who was admitted to the hospital with a severe headache. She had become symptomatic six hours after slipping on ice and falling on her coccyx. Her symptoms included bilateral frontoparietal headache that was more severe in the sitting position and reduced in intensity when recumbent. There was nausea but no vomiting. There were no signs or symptoms of infection. Her physical and plain radiographic examinations and a non-contrast cerebral computed tomography (CT) scan were unremarkable. Magnetic resonance imaging (MRI) of the brain showed smooth dural enhancement, mild distention of the dural venous sinuses, and a slight decrease in the suprasellar cistern – all of which supported a diagnosis of intracranial hypotension.³ Subsequent MRI scans of the entire spine showed Tarlov cysts in the sacrum (Figure). Although no definitive CSF leak was identified, considering the patient's symptoms and cerebral radiological findings of intracranial hypotension, a ruptured cyst was presumptively diagnosed.

The patient was initially treated conservatively with acetaminophen, ibuprofen, and hydromorphone. However,

48 hr later, her symptoms remained. Following a multidisciplinary discussion – with input from neurology, radiology, and anesthesia – the collaborative conclusion was that the patients' headache was due to a ruptured Tarlov cyst, and some relief might result from an epidural blood patch (EBP). The radiological opinion was that the S1-S3 nerve roots were the most likely site of the CSF leak.

Following the patient's consent, pre-procedural ultrasonography was performed to identify the L5-S1 interspace. The EBP was then undertaken with the patient in sitting position. A 17G epidural needle was inserted, using loss of resistance with air to identify the epidural space (3.5 cm from the skin). The bevel of the epidural needle was directed caudally to target the sacral area. At that point, 25 mL of the patient's blood was injected, with sterile precautions, into the epidural space. She was then kept supine for an hour. Her headache diminished significantly after the EBP, and she was discharged from the hospital the same day. Follow-up on days five, 20, and 42 revealed no additional headache.

Patients with Tarlov cysts are commonly asymptomatic. Trauma, however, can damage the cyst, resulting in CSF leak and a typical positional headache due to intracranial hypotension, similar to the headache caused by post-dural puncture. The diagnosis is aided by MRI of the brain and spine.³

Data regarding the management of ruptured Tarlov cysts are insufficient. The postural headache that followed rupture of the cyst and the resolution of symptoms following EBP suggests that intracranial hypotension secondary to the CSF leak is a likely explanation. The injected blood may help seal the leak and increase epidural pressure, which, in turn, elevates subarachnoid CSF pressure by compressing the dura.⁴ It appears that EBP is

F. Qasem, MBBCh, MD (✉) ·
C. McCallum, ACNP, GDipNPAC · P. Armstrong, MD, FRCPC
Department of Anesthesia & Perioperative Medicine, University of
Western Ontario, London, ON, Canada
e-mail: fatemahq82@gmail.com

Figure Magnetic resonance imaging of the patient's spine and Tarlov cysts. A) Cross sectional view of the sacral spine shows one of the Tarlov cysts (arrow a), with another cyst seen on the contralateral side. The S2 nerve roots (arrow b) and S1 nerve roots (arrow c) are also seen. B) Parasagittal view of the spine shows the Tarlov cyst in the sacral area (arrow a)

a reasonable treatment option for a suspected ruptured Tarlov cyst.

Conflicts of interest None declared.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia*.

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