Introduction

Tarlov cysts, which develop between the endoneurium and perineurium, are perineural cysts that are defined as cerebrospinal fluid (CSF)-filled saccular lesions commonly located in the extradural space of the sacral spinal canal[1]. They are rare, showing up in 1.5% to 4.6% of patients receiving magnetic resonance imaging (MRI) for their lumbosacral symptoms, and only 1% or less of Tarlov cysts are considered to be symptomatic[2,3].

Clinical manifestation of symptomatic Tarlov cyst is non-specific and can mimic other spinal disorders: localised pain, radiculopathy, weakness, sensory disturbance, and bladder and bowel dysfunction[1,4,5]. Although surgical interventions are proven to be effective for treating Tarlov cyst[1,4–8], a conservative approach is clinically preferred to avoid invasive surgery. Some clinicians reported good results with the use of steroid therapy[9,10]. To the best of my knowledge, this case report is the first of its kind to use a medical acupuncture approach to manage this condition.

Clinical case

The patient was a 62-year-old woman who presented with low back and buttock pain that persisted for 3 months, despite 5 physiotherapy sessions. Her aching pain on the right side was mild, rating 3/10 on a pain scale. Moving from a seated to standing position — for example getting out of her car — exacerbated her pain; while continuous movement seemed to relieve the pain. The pain also disrupted her sleep. Her symptoms were not disabling, and no bladder nor bowel dysfunction was noted. Her medical, family and medication history was not significant.

A recent MRI taken following referral by her general practitioner revealed degenerative disc disease with mild broad-based posterior bulge at L3/4 and an incidental finding of 2 space-occupying cystic lesions that were inferred as Tarlov cysts: one at the right S1 measuring up to 15 mm × 16 mm and the other at the left S2 measuring up to 19 mm. See Figure 1.
Musculoskeletal and neurological examinations were otherwise unremarkable except that lumbar extension worsened the pain while flexion relieved it. The patient had a normal body habitus.

A course of electroacupuncture was offered. Two models of stainless steel needles were used: 0.30 mm × 70 mm and 0.25 mm × 40 mm (diameter × length). Needles were inserted for 25 min at the following points, bilaterally where appropriate, without manual stimulation: Shenshu (BL23), Qihai (BL24), Dachangshu (BL25), Guanyuanshu (BL26), Zhishi (BL52), Huantiao (GB30), Yaoyangguan (GV3) and Mingmen (GV4). All needles were inserted perpendicularly to the surface of skin, with 0.30 mm × 70 mm needles being inserted at bilateral GB30 for 50-mm depth and 0.25 mm × 40 mm needles at other acupuncture points for 25 mm. On top of that, BL23 was connected to BL26 on each side electrically by continuous wave (6 Hz; 18 mA), with the use of an acupuncture stimulator (model: Yingdi KWD-808I; made in China). At her follow-up session the next week, she reported that her pain was relieved for the whole day after the last session. Bilateral BL28 were added to the initial treatment regimen, with 0.25 mm × 40 mm needles being used. See Figure 2.

After these two sessions, the patient terminated the remaining course of treatment. She explained that she had initial pain relief after the treatment in the first half of the day, followed by mild right-sided sciatica, and then disabling severe buttock pain (8/10) which was suggestive of symptomatic Tarlov cyst. The symptoms decreased to a moderate level (5/10) after two days of bed rest. On our last follow-up 2 weeks afterwards, she reported the pain had returned to the initial condition before the attack (3/10).

3 Discussion

The exact mechanism by which the cysts evoke delayed symptoms is unknown. Reviews[1,4,5] and case reports[6–10] suggest that any causes that can raise intra-cystic hydrostatic pressure of CSF may contribute to the cystic growth, which can result in compression of spinal nerves and nerve roots, as well as stretching of neural tissues within the cysts[1,5], both of which can produce neuropathic pain. Tarlov[11], whose work discovered inflammatory cells in some of the cysts, suggested that inflammation within the cysts may reduce or block the intra-cystic drainage of CSF. Additional studies also identified these cells in some of the specimen[4]. However, whether or not inflammatory process contributes to symptomatic Tarlov cyst is arguable, because some symptomatic Tarlov cysts were successfully managed by steroids[9,10].

Considering the time of onset of her symptoms shortly after electroacupuncture, it is possible that the electro-acupuncture contributed, partially contributed, or did not at all contribute to her symptoms. Much research over the last few decades has demonstrated that acupuncture produces more anti-inflammatory effects than pro-inflammatory activities[12], so it is reasonable to think that acupuncture would reduce inflammation of symptomatic Tarlov cysts, instead of aggravating it. Therefore her symptoms are more likely to be related to confounding factors, such as normal weight-bearing activities. Nonetheless, it is impossible to draw a conclusion or make any justification based on a single case report. More clinical observations are needed.

4 Conclusion

Acupuncture potentially relieves symptomatic Tarlov cysts by reducing inflammation within the cysts. Although in this case the outcome is unsatisfactory and may be attributed by confounding factors, my observation encourages other acupuncturists to design a better regimen and report their observations in managing this rare yet challenging condition.
5 Competing interests

The author declares that there is no competing interest.

REFERENCES


Submission Guide

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