Tarlov cyst case reports

A 66-year-old male presented with right-sided radicular pain in a T4 distribution. MRI of the thoracic spine revealed a right T4 perineural cyst caudally displacing the root in the T4-5 foramen. He had failed attempts at nonoperative management. The patient underwent an all endoscopic transforaminal perineural cyst decompression and resection as a same-day surgical procedure. Postoperatively, the patient noted near complete resolution of the preoperative radicular pain. A thoracic MRI with and without contrast was performed 3 months after surgery and showed no evidence of the preoperative perineural cyst and no symptom recurrence was noted by the patient.

This case report presents the first safe and successful report of an all endoscopic transforaminal decompression and resection of a perineural cyst in the thoracic spine [1].

A 23-year-old Malay woman presented to a primary care clinic with sudden-onset, severe, and persistent low back pain for 1 week, affecting her activities of daily living (ADL), especially as a medical student, as she could not stand for more than 10 minutes. There were no other associated symptoms or recent trauma prior to the onset of back pain. Examinations revealed para-vertebrae muscle tenderness and restricted movements at the L4/L5 lumbosacral spine. A plain radiograph of the lumbosacral spine showed sclerosis and erosion of the right pedicle at the L4/L5 levels. Tuberculosis and haematological tests were normal. A lumbosacral MRI of the spine was ordered and the patient was urgently referred to the orthopaedic spine team. The MRI confirmed the diagnosis of multiple Tarlov cysts, with the dominant cyst located at the S2 level. Her symptoms and ADL improved with conservative management. She is being monitored closely by the orthopaedic team and primary care physician. This case highlights red flag symptoms, ie, sudden-onset, severe, and persistent low back pain, that warrant further investigation. Tarlov cysts should be considered as a differential diagnosis. Close monitoring is vital and early surgical intervention is indicated if symptoms worsen, to prevent potential irreversible nerve damage [2]

A 29-year-old female presented to clinic reporting progressive bilateral sacroiliac joint pain that was essentially mechanical in nature. The patient had a normal neurological exam except for a known left drop foot with numbness in the left sural nerve distribution, both attributed to a previously resected peripheral nerve sheath tumor. Magnetic resonance imaging revealed a large multilobulated lesion with imaging characteristics consistent with TC adjacent to the left side of the sacrum, extending outward from the left S1 and S2 neural foramina and measuring 6.7 × 3.7 cm in the axial plane and and 5.6 cm in the sagittal plane. Six weeks of conservative management consisting of physical therapy and pain management was unsuccessful, and the patient reported worsening pain. Surgical reconstruction consisting of L5-S1 transforaminal lumbar interbody fusion, L4 to pelvis navigation-guided instrumentation and posterolateral fusion, and bilateral sacroiliac joint fusion was successfully performed.

Outcomes: At 12 weeks follow-up appointment after surgery, the patient reported resolution of sacroiliac mechanical pain.

Conclusions: Sacral TC are asymptomatic in their vast majority of cases but may occasionally cause neurological deficits secondary to mass effect. Rarely, however, giant TC can also lead to significant bone erosion or the sacrum with secondary spinopelvic instability. In this brief report, we describe a

giant TC generating significant spinopelvic instability, which was successfully treated with complex spinopelvic reconstruction, leading to complete resolution of the reported axial mechanical pain [3].

A patient who developed worsening lower back pain and radiculopathy after interventional drainage and surgical management. Medication and various procedures failed to relieve the pain. Subsequently, the patient received significant pain relief from spinal cord stimulation (SCS). This case provides evidence that SCS could be used to manage refractory pain from Tarlov cysts that have failed to respond to other treatment modalities [4].

2021

A 39-year-old woman presented with debilitating low back pain (LBP) radiating to her pelvis and the right lower extremity for 4 years. Magnetic Resonance Imaging (MRI) showed multiple sacral nerve root TCs including a large retroperitoneal right S3 TC. Surgical resection of the right S3 cyst was achieved utilizing a robot-assisted anterior approach which provided excellent visualization and maneuverability in the targeted retroperitoneal space. Postoperatively, the patient experienced significant pain relief, and she was able to perform activities of daily life and return to work.

Robotic-assisted pelvic surgery has gained widespread popularity in the last two decades due to its many potential benefits. Utilizing robotic systems in sacral nerve sheath lesions shows a promise to deliver effective minimally invasive surgical management without sacrificing good visualization or instrument maneuverability.

Robot-assisted resection of sacral nerve roots TCs represents a minimally invasive and safe surgical option to manage cysts located anterior to the sacrum in the pelvic retroperitoneal space [5].

2017

Iwamuro et al. present a case of multiple thoracolumbar perineural cysts, one of which was considered the cause of intermittent intercostal neuralgia with atypical findings on postmyelographic computed tomography seen as selective filling of contrast medium.

A 61-year-old woman presented with intermittent pain on her left chest wall with distribution of the pain corresponding to the T10 dermatome. Magnetic resonance imaging showed multiple thoracolumbar perineural cysts with the largest located at the left T10 nerve root. On postmyelographic computed tomography immediately after contrast medium injection, the largest cyst and another at left T9 showed selective filling of contrast medium, suggesting that inflow of cerebrospinal fluid to the cyst exceeded outflow. Three hours after the injection, the intensity of the cysts was similar to the intensity of the thecal sac, and by the next day, contrast enhancement was undetectable. The patient was treated with an intercostal nerve block at T10, and the pain subsided. However, after 9 months of observation, the neuralgia recurred, and the nerve block was repeated with good effect. There was no recurrence 22 months after the last nerve block.

They concluded that intermittent elevation of cerebrospinal fluid pressure in the cyst caused the neuralgia because of an imbalance between cerebrospinal fluid inflow and outflow, and repeated intercostal nerve blocks resolved the neuralgia. Our case demonstrates the mechanism of cyst

expansion [6].

2009

A 28-year-old man presented with back pain and retrograde ejaculations resulting in infertility. After microsurgical excision of large perineurial cysts, back pain resolved, but semen quality showed only marginal improvement. Later, the couple successfully conceived by intrauterine insemination. To the best of our knowledge, this is the first reported case of Tarlov cyst associated with retrograde ejaculation and infertility.

Despite being mostly asymptomatic and an incidental finding, Tarlov cyst is an important clinical entity because of its tendency to increase in size with time. Tarlov cysts of the sacral and cauda equina region may be a rare underlying cause in otherwise unexplained retrograde ejaculations and infertility. Microsurgical excision may be a good option in a select group of patients [7].

1)
Gardocki RJ, Chandler PJ, Vaughan WE, Zuckerman SL, Abtahi AM, Stephens BF. Endoscopic transforaminal treatment of a thoracic perineural cyst: a case report. Eur Spine J. 2023 Aug;32(8):2679-2684. doi: 10.1007/s00586-023-07582-y. Epub 2023 Feb 23. PMID: 36813905.
2)
Abu Hussain SM, Shibraumalisi NA, Miptah HN, Mohamad Ali ND, Yahaya MY, Ramli AS. A Hidden Condition: Multiple Tarlov Cysts Unveiled in a Young Woman Seeking Primary Care for Debilitating Low Back Pain. Am J Case Rep. 2023 Jul 30;24:e940600. doi: 10.12659/AJCR.940600. PMID: 37516905; PMCID: PMC10395752.
3)
Urquiaga JF, Bagdady K, Zhang JK, Mercier PJ, Mattei TA. Complex surgical reconstruction for spinopelvic instability caused by a giant Tarlov cyst eroding the sacrum: A case report. N Am Spine Soc J. 2023 Mar 18;14:100212. doi: 10.1016/j.xnsj.2023.100212. PMID: 37168322; PMCID: PMC10165128.
4)
On J, Polania Gutierrez JJ, Plaza-Lloret M, Dua A, Sun Z. Spinal Cord Stimulation for the Treatment of Refractory Pain From Tarlov Cysts: A Case Report. Cureus. 2023 Jan 18;15(1):e33928. doi: 10.7759/cureus.33928. PMID: 36819355; PMCID: PMC9937083.
5)
Albayar A, Shao JM, Soriano IS, Welch WC. Robot-assisted ventral sacral Tarlov cystectomy; A case report. Int J Surg Case Rep. 2021 Dec 28;90:106732. doi: 10.1016/j.ijscr.2021.106732. Epub ahead of print. PMID: 34998266.
6)
Iwamuro H, Yanagawa T, Takamizawa S, Taniguchi M. Atypical findings of perineural cysts on postmyelographic computed tomography: a case report of intermittent intercostal neuralgia caused by thoracic perineural cysts. BMC Med Imaging. 2017 Jun 13;17(1):37. doi: 10.1186/s12880-017-0210-z. PubMed PMID: 28610610; PubMed Central PMCID: PMC5470231.
7)
Singh PK, Singh VK, Azam A, Gupta S. Tarlov cyst and infertility. J Spinal Cord Med. 2009;32(2):191-7. Review. PubMed PMID: 19569467; PubMed Central PMCID: PMC2678291.