Balkan Med J 2024;41:306-7

Recurrent Schwannoma of the Cauda Equina: A Rare Diagnosis

Laura Gabriela Silva[1], Victor Sudário Takahashi[2], Marcelo de Queiroz Pereira da Silva[3], Márcio Luís Duarte[4]

[1]Department of Internal Medicine, Atenas University Center, Paracatu-MG, Brazil
[2]Department of Internal Medicine, University of Ribeirão Preto, Guarujá-SP, Brazil
[3]Department of Radiology, WEBIMAGEM Telerradiologia, São Paulo-SP, Brazil
[4]Department of Radiology, University of Ribeirão Preto, Guarujá-SP, Brazil

A 54-year-old man presented with pain and numbness in his right lower limb persisting for a year. Although his movement was not limited, he faced difficulty performing certain actions like climbing stairs. He underwent surgery to resect a 3.0 cm schwannoma in the cauda equine 6 years ago, leading to improvement over the subsequent 5 years, with only residual paresthesia in the posterior region of the right thigh. The current symptoms resembled those before the surgery, with no complaints of sphincter alterations. Lumbar magnetic resonance imaging (MRI) revealed nodular schwannomas in the cauda equina roots (Figure 1). Based on this diagnosis, the patient was referred for subsequent surgical intervention.

Schwannomas are benign tumors originating from pathological changes in Schwann cells, which are responsible for producing myelin in axons.[1,2] These tumors are typically encapsulated and relatively rare in the cauda equina, accounting for only 6% of cases.[1] The slow growth of these tumors, initially without neurological signs or symptoms resembling herniated discs, often leads to delayed diagnosis.[1,3] Symptomatology is related to tumor compression of the nerve, leading to progressive lumbar pain, radiculopathy, chronic neurological deficits, gait imbalances, and bladder/intestinal dysfunction.[2]

In 7.2% of cases, schwannomas recur and may evolve with symptoms and neurological deficits.[4] Recurrence is primary caused by factors such as the large size of the tumor (case of the reported patient), adherence to the surrounding nerves, initial partial resection, and cyst formation, increasing the risk of tumor spread during surgery.[2] MRI is the gold standard for detecting cauda equina tumors.[3]

For large or symptomatic schwannomas of the cauda equina, surgical resection is indicated, involving total gross removal of the tumor with sacrifice of the nerve root. Intraoperative electrophysiological monitoring is utilized to minimize perioperative/postoperative neurological morbidity, particularly in recurrent cases.[2,5]

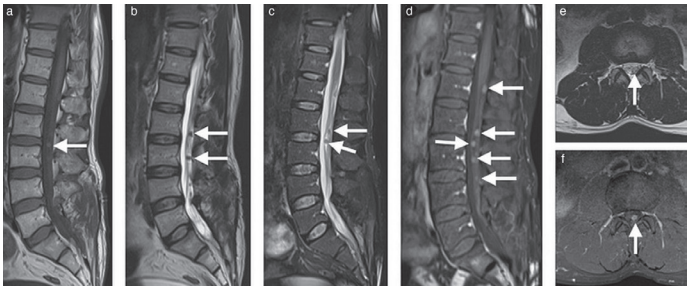

FIG. 1. MRI in the sagittal view T1: (a) T2: (b) T2 STIR: (c) and T1 Fat-Sat Dixon with contrast: (d) as well as the axial view in T2 (e) and T1 Fat-Sat Dixon with contrast (f), illustrating schwannomas in the tail corner with contrast enhancement (white arrows).

MRI, magnetic resonance imaging

Informed Consent: It was obtained from the participant mentioned in this report.

Authorship Contributions: Concept- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Design- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Supervision- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Fundings- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Materials- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Data Collection or Processing- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Analysis or Interpretation- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Literature Search- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Writing- L.G.S., V.S.T., M.Q.P.S., M.L.D.; Critical Review- L.G.S., V.S.T., M.Q.P.S., M.L.D.

Conflict of Interest: No conflict of interest was declared by the authors.

REFERENCES

1. Ferreira LF, Cunha KL, Accioly MAA, et al. Schwannoma of the cauda equina with vertebral involvement: case report and literature review. *Rer Med UFC.* 2017,57:56-58. [CrossRef]
2. Tanaka H, Takaishi Y, Miura S, Mizowaki T, Kondoh T, Sasayama T. Long-term recurrence after surgery for schwannoma of the cauda equina. *Surg Neurol Int.* 2022;13:272. [CrossRef]

Corresponding author: Márcio Luís Duarte, Department of Radiology, University of Ribeirão Preto, Guarujá-SP, Brazil
e-mail: marcioluisduarte@gmail.com

Received: February 02, 2024 **Accepted:** February 12, 2024 **Available Online Date:** 04.07.2024 • **DOI:** 10.4274/balkanmedj.galenos.2024.2024-1-84
Available at www.balkanmedicaljournal.org

ORCID iDs of the authors: L.G.S. 0000-0002-8292-4295; V.S.T. 0000-0003-0330-6681; M.Q.P.S. 0000-0001-8598-3250; M.L.D. 0000-0002-7874-9332.

Cite this article as: Silva LG, Takahashi VS, Silva MQP, Duarte ML. Recurrent Schwannoma of the Cauda Equina: A Rare Diagnosis. Balkan Med J.; 2024; 41(4):306-7.

3. Chu EC, Trager RJ, Yee WJ, Ng KK. Lumbar Schwannoma as a Rare Cause of Radiculopathy in the Chiropractic Office: A Case Report. *Cureus.* 2022;14:e31758. [CrossRef]
4. Perez-Pinto F, Abaunza-Camacho JF, Vergara-Garcia D, Benavides C, Riveros WM, Laverde L. Management of recurrent schwannoma of the cauda equina: A case report. *Surg Neurol Int.* 2021;12:312. [CrossRef]
5. Murayama K, Shigekawa S, Inoue A, Taniwaki M, Kitazawa R, Kunieda T. Utility of surgical tumor resection for normal-pressure hydrocephalus associated with spinal schwannoma in the cauda equina: A case report and review of the literature. *Int J Surg Case Rep.* 2022;98:107575. [CrossRef]