Recurrent Schwannoma of the Cauda Equina: A Rare Diagnosis

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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 equina 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 primarily 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

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