

Epidural Cyst Causing Chronic Back Pain and Spinal Cord Compression: A Case Report

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Case Presentation

A 58-year-old male presented to the physical medicine and rehabilitation clinic for chronic low back pain. The patient reported his pain was present for approximately one year and insidious in onset. He described the pain as a constant ache that increased in intensity with truncal movement and prolonged ambulation. His pain radiated from the midline of his lower back, through the left buttock and into the anterior aspect of his left hip. Patient scaled his pain from 4/10 to 9/10 in severity, depending on activity level. The patient also noted progressive bilateral lower extremity weakness, which he stated often prompted him to take frequent pauses while ambulating to regain his strength. Over-the-counter acetaminophen and non-steroidal anti-inflammatory medication offered only minimal relief. Physical examination was notable for tenderness to palpation about the left-sided lumbar paraspinal musculature, weakness of the hip flexors, and absent deep tendon reflexes across the left lower extremity. MRI of the lumbar spine revealed facet hypertrophy at L4-S1, neuroforaminal narrowing bilaterally at L4-5, and a 3.7 cm epidural cyst at L3-4, medial to the facet joint, which contributed to indentation and nerve root compression at this level. Given the imaging findings and focal neurologic features found on examination the patient was provided a neurosurgical referral for further evaluation.

References

1. Khan AM, Girardi F. Spinal lumbar synovial cysts. Diagnosis and management challenge. Eur Spine J. 2006 Aug;15(8):1176-82. doi: 10.1007/s00586-005-0009-4. Epub 2006 Jan 27. PMID: 16440202; PMCID: PMC3233964.
2. Sean Wy Lee, Aaron Foo, Char Loo Tan, Thomas Tan, Sein Lwin, Tseng Tsai Yeo, Vincent D.W. Nga, Spinal Extradural Cyst: Case Report and Review of Literature, World Neurosurgery, Volume 116, 2018, Pages 343-346, ISSN 1878-8750, <https://doi.org/10.1016/j.wneu.2018.05.199>.



Sagittal (Top) and Axial (Bottom) MRI of lumbosacral spine with epidural cyst at L3-4



Discussion

Epidural cysts are fluid-filled sacs within the epidural space of the spinal canal, thought to arise primarily from developmental anomalies in nerve root sheaths or arachnoid membranes. Cerebrospinal fluid may then leak through a dural defect in the thecal sac and form a cyst. Epidural cysts may also arise from alternative sources such as a synovial fluid collection originating from facet joints and inflammatory, iatrogenic or post-traumatic etiologies that can disrupt normal cerebrospinal fluid dynamics. Overall, epidural cysts are rare and account for less than 1% of spinal epidural lesions. These lesions predominantly affect males aged 30-60 and tend to localize to L4-L5 and L5-S1 lumbar levels. As the cysts enlarge, they may compress both the spinal cord and peripheral nerve roots leading to axial and radicular pain, weakness, sensory changes, and gait disturbance, as seen in our patient. Diagnosis is best made with MRI and treatment varies according to presenting symptoms and cyst characteristics. Traditionally, conservative management, including pain medications, physical therapy, and monitoring, is suitable for small, asymptomatic cysts. While steroid injections into the epidural space and surgical removal, either through open surgery or minimally invasive methods, are considered for large, symptomatic cysts.

Conclusion

This case illustrates a unique case of chronic low back pain with spinal cord compression in the setting of a lumbar epidural cyst.