

Novel Two-Needle Aspiration Technique for Treatment of Epidural Synovial Cyst

Christopher Amen DO - Northwell Health: Peconic Bay Medical Center, Riverhead, NY

John Cassano DO - Northwell Health: Peconic Bay Medical Center, Riverhead, NY

Peter Lascarides DO - Pain Institute of Long Island, Riverhead, NY

Abstract:

When the standard single-needle approach to treatment of an epidural synovial cyst fails, case reports have described an alternative two-needle approach in which fluid is injected into the cyst until it ruptures.¹ This procedure, however, is associated with severe pain due to enlargement of the cyst prior to it rupturing. We present a novel two-needle aspiration technique, which utilizes the Ideal Gas Law and Bernoulli's Principle, to successfully drain fluid from a large epidural cyst without intra-operative discomfort for the patient. A 68-year-old female status post bilateral TKA presented with lumbar radiculopathy. Patient failed conservative treatment with prednisone 5mg QD and hydrocodone-acetaminophen 5mg-325mg BID. MRI showed a 5mm synovial cyst within the left posterior-lateral aspect of the central canal at L4-L5. It extended from the left facet joint deep to a thickened ligamentum flavum, causing severe thecal sac compression, bilateral foraminal stenosis, and compression of the exiting left nerve root. Patient underwent a left L4-L5 facet aspiration with intra-articular steroid injection under fluoroscopic guidance. Initially, a 25-gauge 3.5" spinal needle was advanced into the intra-articular space of the left L4-L5 facet, however, aspiration failed. An additional 22-gauge 3.5" spinal needle was introduced, which allowed for successful aspiration of the cyst through the first spinal needle. There was immediate pain relief following the procedure, and at three week follow-up the patient reported >95% improvement in pain. We present this two-needle aspiration technique as an effective alternative treatment of a synovial cyst when standard single-needle aspiration fails.

1. Malik AS, Cairns KD. Percutaneous Rupture of a Symptomatic Facet Joint Synovial Cyst Using 2-Needle Distention. *Reg Anesth Pain Med.* 2015 Sep-Oct; (5):635-8. doi: 10.1097/AAP.000000000000278.