SURGERY AVERTED: A CASE OF COMPLETE SYMPTOMATIC RELIEF POST-SYNOVIAL SPINAL CORD CYST ASPIRATION

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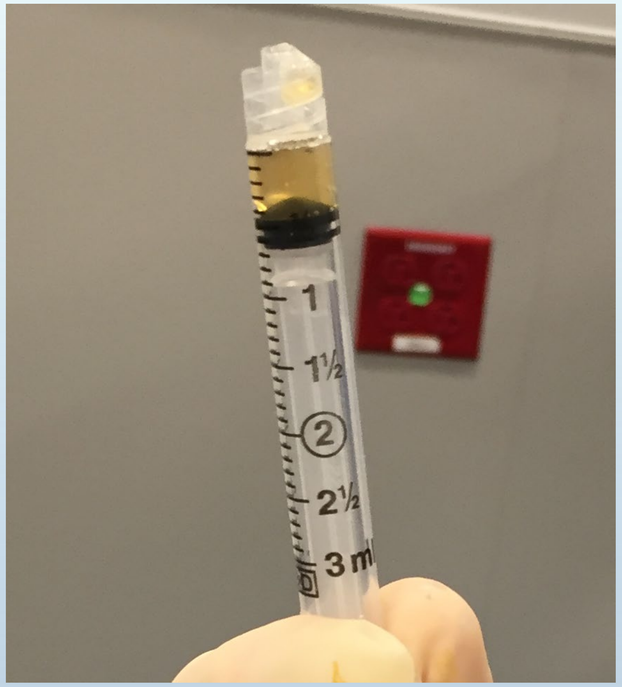
INTRODUCTION

Synovial cysts are fluid-filled sacs within a cavity lined with synovium that were first described in the late nineteenth century by surgeon William M Baker. When formed in the spinal column, they generally develop adjacent to facet joints. It is estimated that they are prevalent in 1% of the general population, although cysts are often asymptomatic and only show up incidentally on MRIs. When symptomatic, spinal cord cysts may cause radicular symptoms and neurologic deficits as they compress the spinal cord. When located in the spine, they most often localize to the level of L4-5. Their etiology is thought to be related to trauma or degeneration of the facet joint capsule. Initial treatment for symptomatic spinal cord cysts includes rest, NSAIDs and analgesics. If conservative treatment fails, other treatment options include surgical decompression either with or without removal of the cyst, or steroid injections with or without aspiration or puncture of the cyst. Surgical decompression carries with it the risk of spinal instability and subsequent need for vertebral fusion along with increased tissue trauma, which is why percutaneous treatment is often preferred as second-line for at least temporary symptomatic relief.

LUMBAR SPINE MRI

SEROUS ASPIRATE



CONCLUSIONS

This patient's X-ray guided synovial cyst aspiration and steroid injection resulted in complete symptomatic relief for the patient within one month. This procedure may be a reasonable consideration for patients seeking pain relief before considering surgical spinal cord cyst removal, at least in the short term. More study into the short and long-term efficacy of percutaneous steroid injection with or without aspiration and puncture versus surgical removal will help guide patients and physicians to develop an effective treatment plan for symptomatic spinal cord cysts.

CASE REPORT

A 78-year-old female, referred from a spinal surgeon at Jefferson University Hospital, presents for evaluation and synovial facet cyst aspiration. The patient reported 10/10 constant pain without relief from medications (oxycodone, tramadol, gabapentin) or physical therapy. The pain was in the low back with shooting pains down the right lateral thigh and leg. She reported most of her pain (90%) to be within the back and right buttock with the rest in the leg. Lumbar spine MRI showed a right-sided L4-5 intracanalicular synovial cyst compressing the L5 thecal sac, leading to severe spinal canal stenosis. Physical exam remarkable for reduced lumbar range of motion, antalgic gait, positive lumbar spasm, and 4/5 right tibialis anterior and right extensor hallucis longus strength. This patient was scheduled to have a surgical removal of the cyst within the next month and was hoping to gain some relief in the interim via x-ray guided aspiration.

METHODS AND RESULTS

The patient underwent a right L4-5 facet cyst drainage and injection after written informed consent was obtained. The patient was placed prone, and the L4-5 facet joint was identified using fluoroscopy, then a 22-gauge 3.5-inch spinal needle was used to aspirate the area of the superior facet joint. 1mL of 0/25% bupivacaine and 1mL of 40 mg/ml of Depo-Medrol was then injected into the area to hopefully puncture the cyst if there was still aspirate left in the cyst.

0.5cc of clear, serosanguinous fluid aspirated from facet cyst. Two weeks post-procedure, the patient reported 50% reduction in pain and improvements in activities of daily living. One month after the procedure, the patient reported 100% symptom relief and was able to avoid surgery.

DISCUSSION

Although percutaneous steroid injection and/or aspiration and puncture carries fewer risks than surgical decompression, the question as to its long-term efficacy remains. Given the rarity of symptomatic synovial cysts resistant to conservative management, small sample sizes used to compare length of symptomatic relief limit between the two treatment methods limit most studies. Some small studies indicate good short-term pain relief with 88-94% of patients achieving relief 13-18 months post-steroid injection. One study showed 79% of patients had pain relief 1-3 months post-steroid injection, however, only 32% of patients showed symptomatic relief 11 years post-procedure. Complete resolution of back pain caused by synovial cysts following surgical decompression seems to have better long-term efficacy, with 88% of patients reporting relief an average of 9.7 years post-op in one population-based study. Additionally, cyst recurrence is higher following percutaneous injection versus surgery, with recurrence rates at 37.5% versus 1-2%, respectively.

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