Abstract

Cervical synovial cysts (SC), however uncommon, can cause radiculopathy and myelopathy. In this study, we report a case of a cervical synovial cyst presented as myelopathy. A 48-year-old man presented with gait disturbance, decreased touch senses, and increased sensitivity to pain below C5 level. Magnetic resonance imaging revealed a 0.3-mm, bilateral mirror-like small cystic lesion in the spinal canal with cord compression at the C5-6 level. We performed a bilateral expansive laminoplasty of C5 using a posterior approach and completely removed the cystic mass. Histological examination of the resected mass revealed fibrous tissue fragments with amorphous materials and granulation tissue compatible with a synovial cyst. The patient’s symptoms resolved within 3 months after surgery.

Although cervical SC is often associated with degenerative facet joints, clinicians must be aware that SC may lead to neurological deficits.

Keywords: Cervical spine, Degenerative, Synovial cyst, Myelopathy

Case Report

A 48-year-old man with a 5-year history of posterior neck pain VAS 7/10 was presented with progressive gait disturbance, decreased touch senses, and increased sensitivity to pain below C5 level. Magnetic resonance imaging revealed a 0.3-mm, bilateral mirror-like small cystic lesion in the spinal canal with cord compression at the C5-6 level (Figure 1). We performed a bilateral expansive laminoplasty (Figure 2B) using a posterior approach and completely removed the solid mass. Histological examination of the resected mass revealed fibrous tissue fragments with amorphous materials and granulation tissue compatible with a synovial cyst. The patient’s symptoms resolved within 3 months after surgery. Although cervical SC is often associated with degenerative facet joints, clinicians must be aware that SC may lead to neurological deficits.
cystic mass (Figure 2A). Histological examination of the resected mass showing cyst wall lined by synovial cells consistent with a synovial cyst (Figure 2C). No neoplasm was identified. At his 3-monthly follow-up examination, the patient reported significant motoric recovery and no neck pain.

Discussion

The history of SC cannot be predicted. Some patients may experience improvement in the symptoms, so surgery is not needed. For small-sized SC with minimal symptoms, careful and conservative treatment is needed. Surgery is performed when there is a worsening of symptoms or nerve deficits. Complete excision of SC is the primary choice of surgery and is expected to result in significant improvement, and according to some literature, in reduced recurrence rates. Common symptoms include neck pain, upper limb pain, and radiculopathy and myelopathy caused by pressure on the nerves and spinal cord. In some cases, the symptoms include brown-sequard syndrome, acute myelopathy, and spontaneous bleeding. As the symptoms are almost similar to space-occupying lesions, it may be difficult for clinicians to diagnose.

As SC may be associated with bleeding, inflammation and bone erosion, it can cause misdiagnosis with other pathological abnormalities, including tumors, infections, and joint inflammation.

The cause of SC can include many factors although they have not been thoroughly detected. It may be originated from the degenerative process and in the erosion of facet joints to the facet wall, triggered by hypermobility or trauma. The inflammatory process plays an important role in the formation of SC by regulation of angiopeitin-1, basic fibroblastic growth factor, substance P, platelet-derived growth factor, and interleukins in stressful locations that cause synovial hyperplasia and cyst formation. Additionally, SC at the cervicothoracic junction is a predilection for the formation of cysts because of the transition between the mobile and fixed segments.

Histologically, cysts in facet joints may be classified as “synovial cysts” or as “ganglion cysts,” which are also known as “pseudo-cysts.” Synovial cysts (true cysts) with capsule wall, clear liquid, and serosa, are directly associated with facet joints. Most cases show progressive myelopathy symptoms caused by non-trauma factors. In the case presented here, no acute formation of a synovial cyst or hematoma was found by microscopic examination, and no evidence of a fracture was reported.

Conclusion

We reported a unique case of a bilateral mirror-like image of the cervical synovial cyst in young adults. Because of the rarity of this case, so few cases were reported. Surgical excision of cysts can improve symptoms and resolution of neurological disorders.

Acknowledgment

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References
