Retrodental synovial cyst: MRI findings

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DESCRIPTION

Synovial cysts of the cervical spine are extremely rare. We describe a case concerning a 57-year-old woman who presented with uncertain cause of odontoid fracture, resulting in a cystic lesion compressing the upper cervical spinal cord. She had a history of neck pain and she had no history of head and neck trauma. There was no neurological deficit and no hyper-reflexia. Laboratory studies (including RA factor) were normal. Minimal invasive surgery of C1/C2 transarticular fusion was successfully performed. The patient was allowed to walk within 9 days after surgery.

After surgery, although significant improvement in pain and disability occurred, MRI showed an oval-shaped lesion, posterior to the odontoid process, causing slight compression of the spinal cord. This mass was characterised by a low signal intensity on T1-weighted images and high signal intensity on T2-weighted images (figures 1 and 2). The most useful method for diagnosis was MRI.

Many theories have been proposed to explain what causes spinal synovial cysts.1 2 Synovial cysts generally arise at the facet joint capsule.2 The atlantoaxial instability was so severe; therefore, stress at the C1–C2 facet joints might have produced the synovial cyst.

Synovial cysts as a result of spinal fracture are most common in the lumbar region, followed by the thoracic and then cervical region; cervical cysts are rare,3 but they should be considered in the differential diagnosis of an extradural mass of the upper cervical spine.

Figure 1  MRI demonstrating an oval-shaped cystic lesion at the anterior of the spinal canal at the atlanto-axial junction (white arrow): (A) sagittal T1-weighted image precontrast, (B) sagittal T2-weighted image and (C) axial fat saturated T2-weighted image.

Figure 2  Postcontrast fat saturated T1-weighted MRI showing a hypointense signal of the cyst (white arrow): (A) sagittal and (B) axial.
Learning points

▸ Synovial cysts of the cervical spine are extremely rare.
▸ Degenerative intraspinal cysts may cause various neurological symptoms.
▸ These degenerative intraspinal cysts of the spine are usually diagnosed by MRI.

Contributors
DY and AB have made substantial contributions to the acquisition of the clinical data and analysis of the previous reports in the literature. BT and OT were involved in drafting this manuscript. All authors read and approved the final manuscript.

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REFERENCES