Spontaneous resolution of a cervical synovial cyst

Case illustration

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Key Words • synovial cyst • radiculopathy • cervical spine • spinal disease • spontaneous remission

Cervical synovial cysts are considered an uncommon entity and, to our knowledge, spontaneous and complete resolution of a cervical synovial cyst has not been recorded. Synovial cysts of the spinal column arise from the lining of the facet joints and may cause pain and neurological deficit from compression of neural elements. Typically, the lesion tends to enlarge progressively unless treated. In rare instances, spontaneous resolution may occur; such an event has been documented in the lumbar region.4

The natural history of synovial cysts is unpredictable, and some patients experience improvement in their symptoms or stabilization without surgery. The mechanisms behind the formation and resolution of these cysts remain controversial. We report a unique case of complete and spontaneous resolution of a C7–T1 cervical synovial cyst. A 58-year-old woman presented with persistent tingling and numbness in the medial right forearm and hand, which had lasted for 6 months. She remembered that she had experienced pain in her shoulder and arm after she had engaged in strenuous yard work, but the pain had later subsided. The tingling was located in the medial arm, the forearm, and the medial two fingers. Intermittent neck stiffness and an aching pain in the axilla were present and bothersome. She noted that she had been experiencing difficulty in using her right arm and hand when performing tasks such as opening canned jars, buttoning and unbuttoning, and handling coins. No objective motor, sensory, or reflex alterations were detected. A tentative diagnosis of cervical synovial cyst was made and surgery was recommended. For personal reasons, the woman did not wish to submit to surgery for 6 months.

At the end of that period, an updated MR imaging study was performed. A review of the images showed that the cyst had entirely disappeared (Fig. 1 right). The patient reported that her symptoms had mostly resolved and surgery was cancelled. Based on the findings on the MR images, the diagnosis of spontaneous resolution of a cervical spinal synovial cyst was made.

Contemporary evidence based on experimental and clinical observations suggests that a mechanically stressed joint induces a cascade of events (upregulation and release of angiopoietin-1, interleukins-1 and -6, platelet-derived growth factor, basic fibroblast growth factor, vascular endothelial growth factor, and substance P), resulting in synovial hyperplasia, neovascularization, and exudation of fluid (on occasion, hemorrhagic fluid), and culminating in the creation of a cyst. It appears that this process is reversible because the synovial proliferation may regress on withdrawal of mechanical stress. This seems to have happened in our patient, whose curtailment of her previous mechanical activities resulted in spontaneous resolution of the cyst. A review of the recent literature leads us to infer that injection of corticosteroid medications into the facet joint may also have helped reverse this inflammatory cascade.

Acknowledgments

We thank Dr. Saroj Mathupala Dr. Richard Rhiew, and Roxanne E. Colen, P.A.-C. for their helpful discussions and proofreading of this manuscript.

References


Manuscript received April 27, 2005; accepted in final form November 4, 2005.

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Fig. 1. Left: Axial T2-weighted MR image revealing a right-sided posterolateral oval epidural lesion measuring 9 ± 4 mm, which is contiguous with the facet joint. The signal intensity of the lesion approximates that of cerebrospinal fluid (arrow). Right: An MR image showing that the cyst has entirely disappeared.