**Inflammation of vertebral bone associated with acute calcific tendinitis of the longus colli muscle**

**Abstract** We present a case of acute retropharyngeal calcific tendinitis with characteristic findings on radiographic, computed tomography, and magnetic resonance imaging (MRI). To our knowledge, this is the first acute retropharyngeal calcific tendinitis report having inflammation of both the vertebra itself and the longus colli muscle diagnosed on MRI. In patients with neck pain, acute retropharyngeal calcific tendinitis should be kept in mind in the differential diagnosis, even if these patients had vertebral pathological signals on MRI.

**Keywords** Calcific tendinitis · Longus colli muscle · Retropharynx · Vertebrae · Inflammation · MRI

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**Introduction**

Retropharyngeal calcific tendinitis is an inflammation of the longus colli muscle tendon, which is located on the anterior surface of the vertebral column and extends from the atlas to the third thoracic vertebra. Although many reports in the literature emphasized radiographic, computed tomography (CT), and magnetic resonance imaging (MRI) findings of this relatively rare disease, to our knowledge, no reports have been documented about inflammation of the vertebral body associated with retropharyngeal calcific tendinitis. We present a case of acute retropharyngeal calcific tendinitis of longus colli muscle, diagnosed primarily on X-ray examination of the cervical spine, and neighboring vertebral body inflammation shown with MRI.

**Case report**

A 57-year-old woman had a history of neck stiffness, dysphagia, and sore throat. The neck had a limited range of motion with the head rigidly in slight flexion, and the posterolateral portion of the neck was tender at palpation. There was no history of trauma, upper respiratory infection, or dental problems. Her temperature was 37.4 °C. No lymphadenopathy was noted. Posterior pharyngeal edema and erythema were detected on clinical examination of the oro- and nasopharynx. White blood-cell count was 11,900/ mm³ with 78% segmented polymorphonuclear leukocytes and 2% band forms. Erythrocyte sedimentation rate was 41 mm/h. The results of tuberculin skin testing and acid-fast bacilli in gastric secretion samples were both negative. Agglutination test for brucellosis was also negative. No scintigraphic examination was done. X-ray examination showed amorphous soft tissue calcification and thickening of the soft tissue anterior to C1 and C2. An enhanced CT demonstrated soft tissue swelling and amorphous calcification in a prevertebral position anterior to C1 and C2, corresponding to the longus colli muscle (Fig. 1a). On the same day, MRI showed markedly increased signal intensity on T2-weighted images, anterior to the level of C1 to C5, corresponding to inflammation of the longus colli muscle along the C1 vertebral body and odontoid process of C2, with decreased signal intensity on T1-weighted images at the same corresponding areas (Fig. 1b). On follow-up examination 2 weeks after administration of non-steroidal anti-inflammatory drugs (NSAID), the prevertebral soft tissue changes had disappeared, but the vertebral bone inflamma-
Fig. 1  

a Axial CT images show dense amorphous calcification (arrow) anterior to C1 and C2, corresponding to the longus colli muscle. b T2-weighted MRI images show hyperintense prevertebral soft tissue inflammation on the longus colli muscle between C1 and C5 (long arrows). Hyperintense bone marrow signals in the C1 and C2 body and hypointense prevertebral calcification (arrowhead) are also seen. c Two weeks later, fat-saturated T1-weighted contrast-enhanced MRI images show relative regression of prevertebral soft tissue inflammation (arrowhead) but persistence of pathological bone marrow signals (arrow). d Two months later, T2-weighted (on left) and T1-weighted (on right) MRI show complete regression of pathological bone marrow signals as well as prevertebral soft tissue inflammation.

Discussion

Since it was originally first described by Hartley in 1964, many authors have documented findings of acute retropharyngeal calcific tendinitis, also called calcific prevertebral tendinitis and calcific tendinitis of the longus colli muscle, by radiographic examination, CT and/or MRI [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21]. Acute retropharyngeal calcific tendinitis occurs most frequently in the third through the sixth decade of life, although it has been reported in adults between the ages of 21 and 81 years [2]. The clinical feature is the rather sudden onset of severe pain in the neck and throat, aggravated by swallowing and movement of the head. This may be associated with mild fever [8]. Erythrocyte sedimentation rate may be mildly elevated and there may be a recent history of upper respiratory tract infection or minor trauma to the head or neck [21]. Ring et al. [11] found that the technetium-99m diphosphonate bone scan, which was done on only one patient in their study, was negative. Cervical spine radiographs show calcification anterior to the C1 and C2 and prevertebral soft tissues, establishing the diagnosis of calcific tendinitis of the longus colli muscle [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16]. Sometimes it is hard to make this diagnosis from radiographs, because patients can be diagnosed correctly either prospectively or retrospectively. CT has advantages over radiography in the diagnosis of this disease, showing more clearly soft tis-