CASE REPORT

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Radiological Findings of Acute Calcific Tendinitis of the Longus Colli Muscle

Şükrüye Firuze Ocak Karataş[1*], Murat Beyhan[2], Erkan Gökçe[2]

[1]Department of Radiology, Tokat State Hospital, Tokat, Turkey
[2]Department of Radiology, Tokat Gaziosmanpaşa University Faculty of Medicine, Tokat, Turkey

ABSTRACT

Acute calcific tendinitis of the longus colli muscle (CTLCM) is a rare reason of neck pain and symptoms can bear odynophagia, mild fever, and restricted cervical motion. Computed tomography is the most important radiologic examination for diagnosis, and magnetic resonance imaging or plain radiographs can also be used for diagnosis. We present two cases of acute CTLCM with specific imaging findings, prevertebral edema and calcium accumulation.
Keywords: Acute calcific tendinitis, Longus colli muscle, Neck pain, Prevertebral tendinitis, Retropharyngeal calcific tendinitis

Introduction

Acute calcific tendinitis of the longus colli muscle (CTLCM) is a little-known inflammatory entity. Also called retropharyngeal calcific tendinitis or acute calcific prevertebral tendinitis (1). It occurs as a result of the accumulation of calcium hydroxyapatite crystals in the superior oblique part of the longus colli muscle (LCM). Characteristic accumulation occurs anterior to the C1-C2 disc space, but it may also occur at C4-C5 or C5-C6 vertebral space (2). We present two cases of acute CTLCM with specific imaging findings.

Cases Reports

We will present two case with similar findings. 44 and 47-year-old male patients applied to the hospital with dysphagia, severe neck pain, physical examination revealed pain and spasm in the paravertebral muscles. Patients had no history of any illness or trauma. The neck movements of the patients were slightly limited, and there was no neurological deficit. The oropharyngeal examination of the patient was normal; they also did not have fever, nausea, and vomiting. Laboratory tests revealed increase in C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR). Cervical spine radiography showed prevertebral soft tissue edema stretching from C1 to C5 and calcification in the inferior part of C1 (Figure 1A). On cervical vertebra computed tomography (CT) examination, multiple calcifications and prevertebral soft tissue swelling were noted in the anterior of C1-C2 (Figure 1B-C, Figure 2A-B). On cervical magnetic resonance imaging (MRI) revealed fluid collection in the prevertebral space extending from C1 to C5 on T2-weighted series (Figure 1D, Figure 2C-D) and contrast enhancement detected due to inflammation in the LCM after paramagnetic contrast agent administration (Figure 1E-F). In addition to these imaging findings, other differential diagnosis are ruled out due to absence of no peripheral enhancement suggestive of abscess, no damage to bone structures and no LAP appearance. A remarkable improvement in the patient's clinical symptoms was achieved due to the use of nonsteroidal anti-inflammatory drugs (NSAIDs).

Discussion

Hartley was the first defined the CTLCM in 1964. This situation was proved histologically in 1994 by Ring et al. due to calcium hydroxyapatite (3, 4). The incidence of LCM calcific tendonitis is estimated to be around 5/1,000,000 people per year. However, it is underestimated as it is a little-known condition (4). The precise etiology of the calcium hydroxyapatite crystal accumulation is not fully understood yet, although, some researchers

***Corresponding Author:** Şükrüye Firuze Ocak Karataş, Department of Radiology, Tokat State Hospital, Tokat, Turkey, Yeni Mahalle, Gültekin Topçam Bulvarı No:9, 60100 - Tokat
E-mail: firuzeocak@hotmail.com, Phone: +90 (532) 682 90 55 Fax: 0 (356) 214 36 01
ORCID ID: Şükrüye Firuze Ocak Karataş: 0000-0002-9878-1065, **Murat Beyhan:** 0000-0002-8630-4632, **Erkan Gökçe:** 0000-0003-3947-2972
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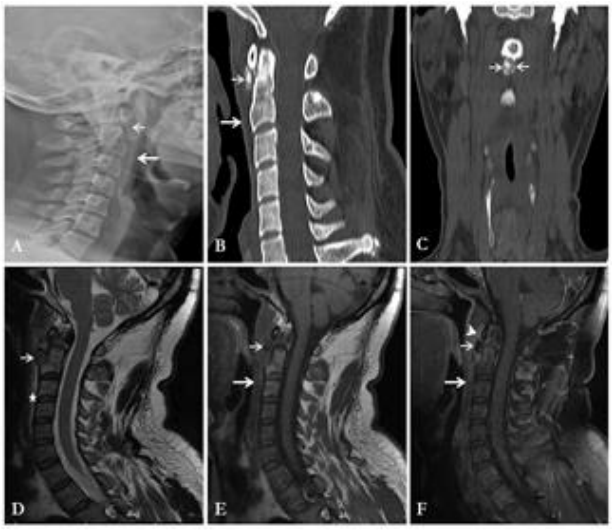

Fig. 1. Soft tissue swelling (long arrow) and calcification in C1-C2 anterior side (short arrow); A) lateral cervical vertebra radiography; B) sagittal and C) coronal reformatted computed tomography images; D) sagittal plane T2W, E) T1W and F) T1W contrast-enhanced magnetic resonance images. Fluid collection (star) in prevertebral soft tissue extending from C1 to C5 on sagittal plane T2W magnetic resonance (D) image and contrast material retention seconder to inflammation in longus colli muscle on T1W contrast-enhanced magnetic resonance (F) image (arrowhead) shown

think that trauma, repetitive ischemia, and degeneration conduce to the pathogenesis of CTLCM (1, 5, 6). The LCM consists of three segments containing the upper oblique fibers, vertical oblique fibers and inferior oblique fibers; and the calcific tendinitis involves the upper oblique fibers (3).

Although the disease shows a mild predominance in women, it can be seen in both sexes (7). It is most common between the ages of 30-60 (2). Higher ESR, CRP, and white blood cell counts can be seen as laboratory findings (7). Its clinical condition can often be confused with conditions such as neoplasm, neck abscess, cervical disc herniation, subarachnoid hemorrhage, trauma, meningitis, and rheumatoid diseases (1, 7). Typical radiological signs are calcification and soft tissue edema anterior to C1-C2 on CT (2, 7, 8). CT is considered the most useful radiological modality for differentiating tendinitis from abscess in the retropharyngeal area. CT distinguishes the acute CTLCM from the retropharyngeal abscess by showing the contrast-enhancing fluid accumulation, inflammatory lymph nodes, and bone destruction (3). MRI can show prevertebral fluid collection and prevertebral swelling, but

Fig. 2. Calcification anterior to C1-C2 (small arrows) and soft tissue swelling (large arrows); A) sagittal bone window; B) sagittal soft tissue window computed tomography; C) sagittal plane T2W magnetic resonance imaging; D) axial plane T2W magnetic resonance images are shown. On sagittal and axial plane T2W magnetic resonance (C-D) images show fluid collection (star) in prevertebral soft tissue extending from C1 to C5

calcifications are difficult to recognize with this imaging method. On plain radiography, when edema disappears rapidly, calcium accumulation and prevertebral soft tissue edema may be overlooked, or no pathological symptoms may be seen on plain radiography (9). Acute CTLCM is a benign disease that lasts 2-3 weeks, and patients are advised to avoid mechanical action (4). NSAIDs and low-dose corticosteroids are used in treatment (8, 9).

In conclusion, acute CTLCM should be kept in mind in patients with limitation of movement and neck pain if laboratory findings also support it.

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