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Calcific tendinitis of the longus colli muscle

SHORT CASE REPORT

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BACKGROUND

Calcific tendinitis of the longus colli muscle is an aseptic inflammatory reaction to calcium hydroxyapatite crystal deposition in the cervical prevertebral space.

CASE PRESENTATION

A 40-year-old woman presented with neck pain and odonyphagia. She had reduced mobility in her neck, tenderness to palpation and elevated CRP with normal leukocyte count and sedimentation rate. CT revealed a fluid collection in the retropharyngeal space and a calcific deposition in the longus colli muscle consistent with calcific tendinitis. She improved with NSAID therapy. Blood cultures taken on arrival showed no growth.

INTERPRETATION

Acute calcific tendinitis of the longus colli muscle is an aseptic inflammatory process in the cervical prevertebral space and an important mimicker of retropharyngeal abscess and spondylodiscitis.

Calcific tendinitis of the longus colli muscle is an aseptic inflammatory reaction to the deposition of calcium hydroxyapatite crystals in the associated tendon. The condition is rare and self-limiting but can mimic several serious diseases. This case report illustrates how the condition can be diagnosed on the basis of imaging plus clinical findings.

A 40-year old woman was admitted to her local hospital with suspected cervical spondylodiscitis or retropharyngeal abscess. She had a 3-day history of continuous neck pain, lethargy, and reduced food intake due to odynophagia, with no preceding trauma or respiratory tract infection. Clinical examination revealed her to be afebrile, with severe tenderness to cervical paraspinal palpation and reduced lateral cervical mobility. She had no neurological deficits and no bulging of the pharynx or visible swelling or rubor on the throat.

The patient was hypertensive with blood pressure 153/105 mm Hg and a respiratory rate of 20 breaths/min. CRP was elevated at 42 mg/L (reference range 0–5 mg/L), but all other blood test results were within reference ranges, including sedimentation rate and leukocytes.

A retropharyngeal abscess was suspected, and the patient was referred for a cervical CT with intravenous contrast. This revealed a thin collection of fluid in the retropharyngeal space and a small, round calcification at the lower edge of

the anterior arch of atlas (Figure 1). The typical radiological features of an abscess were absent, with no contrast enhancement around the fluid collection, nor gas bubbles or lymphadenopathy.

Figure 1 CT cervical spine (bone window) with features typical of calcific tendinitis in the longus colli muscle: round calcification below the anterior arch of atlas, C1 (see arrow).

A cervical MRI confirmed the presence of fluid in the retropharyngeal space and oedema in the prevertebral soft tissue but ruled out spondylodiscitis (Figure 2). Calcific tendinitis was considered as a differential diagnosis, but when the patient's pain worsened, she was admitted to the otorhinolaryngology department for further examination. By now she had almost no mobility in her neck and could barely eat or drink due to the odynophagia. Examination revealed no bulging of the pharynx as would have been expected with an abscess, and she remained negative for leukocytosis. Treatment for tendinitis was started in the form of diclofenac 50 mg × 3 orally, with intravenous clindamycin 300 mg × 4 to cover infection. By the next day, the patient's symptoms had improved significantly, with increased mobility of the neck and reduced pain. Such a rapid response would be unlikely with a retropharyngeal abscess, and antibiotic treatment was therefore discontinued as infection was

no longer suspected. By Day 3, after 24 hours without antibiotics, the patient's CRP level had halved, and she was discharged with a diagnosis of calcific tendinitis in the longus colli muscle and instructions to continue treatment with diclofenac 50 mg × 3 orally for one week. Blood cultures from samples taken on arrival were negative (results became available after discharge) and no further follow-up was required.

Figure 2 T2-weighted MRI of the cervical spine showing features typical of calcific tendinitis in the longus colli muscle: retropharyngeal fluid (arrows on left) and oedema in the longus colli muscle (arrow on right).

Discussion

Acute calcific tendinitis of the longus colli muscle is an aseptic inflammatory response to the deposition of calcium hydroxyapatite crystals in the longus colli tendon. The longus colli is a prevertebral muscle that flexes and rotates the neck. The deposition tends to occur predominantly in the superior fibres extending from the transverse process at C3–C5 to the anterior tubercle of C1 (atlas) (1–4).

The aetiology of the condition remains unclear. One hypothesis is that trauma, degeneration, or ischaemia of the tendon predisposes to the deposition of crystals in an attempt to compensate for reduced tendon quality. Rupture and release of the crystals induces a strong inflammatory foreign body response in the surrounding soft tissue. The crystals are resorbed over the course of one to two weeks, and symptoms usually resolve after a few days (1, 2). One study found a mean symptom duration of 4.6 days (3). The condition responds well to non-steroidal anti-inflammatory drugs, and possibly to steroids in severe cases (1–4). An epidemiological study from 2013 reported the incidence as 0.5 per 100 000 but stated that the condition was also likely to be underreported. The condition typically affects those aged 30–60 years (5).

Calcific tendinitis of the longus colli muscle is also referred to in the literature as prevertebral calcific tendinitis, retropharyngeal tendinitis or longus colli tendinitis, and is characterised by acute and severe pain in the neck and throat and reduced mobility of the neck. Fever, mild leukocytosis and elevated CRP and sedimentation rate may also be present (1–4).

The condition may mimic several other infectious conditions, such as retropharyngeal abscess and spondylodiscitis. Imaging is essential for diagnosis, as this case report illustrates. The gold standard is cervical CT with intravenous contrast, which reveals the pathognomonic calcifications in the superior fibres of the longus colli tendon at C1–C2 (1–4) – as seen in our patient (Figure 1).

The amount of calcium can vary and does not correspond to the degree of inflammation (2). Secondary inflammatory changes may also be present, such as retropharyngeal effusion and oedema in prevertebral soft tissue, as seen on both CT and MRI in this patient (Figures 1 and 2). In patients with retropharyngeal abscess, contrast enhancement would be expected around the fluid collection, and possibly gas bubbles and local lymphadenopathy; these will be absent in cases of calcific tendinitis (2, 4). Our patient was nevertheless given antibiotics, as infection could not be completely ruled out.

The antibiotics were soon discontinued, however, as the patient's symptoms resolved more rapidly than would be expected with an infection, reinforcing suspicion of calcific tendinitis.

Cervical MRI was also performed to rule out spondylodiscitis. MRI has high sensitivity for detecting inflammatory changes in and around the longus colli muscle, but is less sensitive than CT for detecting calcifications, and is therefore not the first choice (2).

This case report illustrates that calcific tendinitis of the longus colli muscle has a characteristic appearance on CT and should be suspected by clinicians and radiologists in patients with acute neck pain and stiffness, and odynophagia. Knowledge of the condition can reduce pain and unnecessary medical or surgical interventions.

The patient has consented to the publication of this article.

The article has been peer-reviewed.

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