CASE REPORT

Unusual case of acute neck pain: acute calcific longus colli tendinitis

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SUMMARY

Acute calcific longus colli tendinitis (ACLCT), a very rare cause of severe neck pain, dysphagia and odynophagia, is often mistaken for other common causes of neck pain. However, prompt recognition of this uncommon presentation is important to prevent unnecessary medical and surgical intervention. A 46-year-old Caucasian man presented with a 1-day history of severe neck pain, headache and odynophagia. The patient was afebrile with stable vital signs, however, the laboratory data showed mildly elevated C reactive protein and erythrocyte sedimentation rate. The physical examination was remarkable for markedly reduced cervical range of motion. MRI revealed the pathognomonic findings of paravertebral oedema and calcification. The definitive diagnosis of ACLCT was made and the patient was successfully managed with a short course of oral steroid, benzodiazepine and aural acupuncture, with complete resolution of the condition within a week.

BACKGROUND

Neck pain is one of the most common reasons for a doctor's visit. There are many common causes of acute neck pain, however, being aware of less common causes of neck pain, such as acute calcific longus colli tendinitis (ACLCT), is important for a timelier diagnosis and proper management. ACLCT is a benign condition characterised by sudden onset granulomatous inflammation of the longus colli muscle due to calcium hydroxyapatite deposition in the insertion sites of the tendon.¹ The condition may present in males or females aged 21–81 years, with most being 30–60 years.² ACLCT is a self-limiting condition that can be treated with conservative management, thus misdiagnosis (eg, cervical disc herniation, retropharyngeal abscess, meningismus, infectious spondylitis, oropharyngeal and spinal neoplasia, and trauma) or failure to recognise this condition can lead to unnecessary treatment including surgical interventions.^{3 4} It is our hope that this case report will help aid in the recognition of this rare disease, and we offer a novel approach to management.

CASE PRESENTATION

A 46-year-old non-obese Caucasian man with a medical history of remote tick bite, chronic lumbago, fatigue, erectile dysfunction, hyperlipidaemia and androgen deficiency presented to our outpatient neurology clinic, with a 1-day history of severe neck pain, headache and odynophagia. The patient denied fevers, night sweats, chills, chest pain, breathing difficulty or any other associated

symptoms. Other review of systems was negative. There was no history of recent trauma, illness, travel or sick contacts.

The patient was afebrile and the vital signs were stable with a blood pressure of 136/67 mm Hg and heart rate of 64 bpm. On physical examination, the patient was moderately tender to palpation in the cervical neck region and had markedly reduced cervical range of motion in all planes secondary to excruciating pain. The airway was patent and the Kernig's and Brudzinski's signs were absent. The complete neurological examination was benign and there were no focal neurological findings. Laboratory data revealed a normal complete metabolic profile, normal complete blood count, mildly elevated C reactive protein (CRP) and mildly elevated erythrocyte sedimentation rate (ESR). The blood work was negative for an infectious aetiology. MRI of the cervical spine without contrast was ordered to make a definitive diagnosis (figures 1 and 2). The clinical presentation and the pathognomonic MRI scan findings allowed us to make the diagnosis of ACLCT.

DIFFERENTIAL DIAGNOSIS

Cervical disc herniation, retropharyngeal abscess, meningismus, infectious spondylitis, oropharyngeal and spinal neoplasia, and trauma.

TREATMENT

The patient was given a 10-day regimen of prednisone 30 mg three times per day and diazepam

Figure 1 Sagittal view of a T2-weighted Trufi MRI demonstrating retropharyngeal fluid and inflammation of the longus colli tendon (arrow).

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Figure 2 Axial view of a T2-weighted Trufi MRI demonstrating fluid in the retropharyngeal space (arrow).

10 mg twice per day to reduce the inflammatory response and to control his pain. He was also treated in the office with aural acupuncture to the right ear (phase 3 neck, Shen Men, phase 4 neck, throat) and left ear (cervical, phase 4 neck, throat) with a minimal subjective decrease in pain and increase in the cervical range of motion.

OUTCOME AND FOLLOW-UP

On follow-up 1 week later, the patient's symptoms had completely resolved, with full cervical mobility restored and minimal subjective feeling of residual stiffness. Owing to the prompt diagnosis and management, unnecessary medical and surgical intervention was spared.

DISCUSSION

ACLCT, an infrequent cause of acute neck pain, mimics several life-threatening conditions, including trauma, cervical disc herniation, retropharyngeal abscess, meningismus, infectious spondylitis, as well as oropharyngeal and spinal neoplasia.⁵ ACLCT is perhaps an underdiagnosed clinical entity because the presenting symptoms are non-specific and the condition is usually self-limited.⁶ Hence, diagnosis of ACLCT should be made only after the aforementioned conditions have been ruled out.⁵

In 1964, Dr Joel Hartley described the first case report of acute onset neck pain with associated prevertebral swelling on plain film radiography.⁷ The typical presentation of this condition is acute onset neck pain, dysphagia and odynophagia in a male or female aged 21–81 years, with most being 30–60 years.² Imaging is paramount in the diagnosis as a well-versed radiologist can easily identify the pathognomonic finding of prevertebral oedema with longus colli calcification. Classically, there is an asymmetric soft tissue swelling with calcified deposits along the superior medial portion of the longus colli muscle at the level of C1–C2, in addition to concomitant prevertebral soft tissue swelling from C1–C5.^{8–10} The findings of smooth, soft tissue oedema with lack of contrast enhancement on CT scans is unique to ACTLC, helping distinguish the condition from retropharyngeal abscess.^{9 11} Even though a lateral soft tissue neck radiograph typically demonstrates

prevertebral soft tissue widening, the finding is inadequate to distinguish the aetiology of soft tissue expansion beyond normal, which at the level of C2 is >50% (or about 6 mm) of the vertebral body.¹²

The pathogenesis of ACTLC is theorised to involve an immune system activation that invokes a granulomatous inflammatory response against calcium hydroxyapatite deposits in the longus colli muscle.^{5 7} Although the aetiology of calcium hydroxyapatite deposition remains unclear, possible causes include trauma, upper respiratory tract infection and repetitive movement.¹³ ACTLC is similar to common crystal deposition diseases such as gout and pseudogout, though it differs such that its deposition occurs at longus colli tendon muscle insertion sites.⁵ This calcium deposition triggers an inflammatory response, which can produce a fluid collection in the retropharyngeal/prevertebral spaces, leading to oedematous changes to the neck flexure muscles.⁵ Owing to this, patients usually present with low-grade fever and mildly elevated ESR, CRP and leucocytosis.^{5 6 9}

ACLCT usually resolves on its own in 1–2 weeks, without treatment.¹⁴ The mainstay treatment of this condition has been conservative non-steroidal anti-inflammatory drugs (NSAIDs) and analgesics.^{4 5 14} In the present case, we utilised an alternate regimen consisting of oral steroid, benzodiazepine and aural acupuncture, to yield similar results. Preliminary data suggest that steroidal treatment in the management of ACLCT leads to the resolution of symptoms in 2–5 days as opposed to 1–2 weeks with the traditional approach.^{5 14} Steroidal treatment may also be more preferred for those who have contraindications to NSAID therapy (ie, peptic ulcers, renal disease, liver disease with ascites, third trimester of pregnancy, etc). It is our expectation that this case report will help aid in the recognition of this rare disease and offer an alternative treatment to the routinely used NSAIDs. Follow-up imaging is not routinely recommended unless the condition exacerbates.^{5 14}

Learning points

- ▶ Acute calcific longus colli tendinitis (ACLCT), a very rare cause of severe neck pain, dysphagia and odynophagia, is often mistaken for other common causes of neck pain including cervical disc herniation, retropharyngeal abscess, meningismus, infectious spondylitis, oropharyngeal and spinal neoplasia, and trauma.
- ▶ ACLCT is characterised by sudden onset granulomatous inflammation of the longus colli muscle due to calcium deposition in the insertion sites of the tendon.
- ▶ Prompt recognition of the pathognomonic findings (paravertebral oedema and calcification) via MRI and CT imaging as well as proper management, is vital to prevent unnecessary medical and surgical intervention.
- ▶ This case highlights a novel approach in the management of ACLCT with oral steroid, benzodiazepine and aural acupuncture. This can be particularly useful in patients who have contraindications to the routinely used NSAID therapy.

Contributors Gunjan was involved in design, laboratory/radiological data acquisition/ interpretation, draft revision and final approval. Daren was involved in drafting the initial manuscript, critically revising the manuscript, collecting references and final approval. Gargi was involved in critically revising the manuscript, designing the manuscript and final approval. Dr. Serano was involved in managing the case, draft revision, final approval and providing important intellectual input. All the authors read and approved the final manuscript.

Competing interests None declared.

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