CASE REPORT

Acute severe neck pain and dysphagia following cervical maneuver: Diagnostic approach

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KEYWORDS
Retropharyngeal calcific tendinitis; Retropharyngeal abscess; Acute neck pain; Cervical maneuver

Summary

Introduction: Overlooking an etiologic hypothesis in acute neck pain with dysphagia may lead to misdiagnosis.

Case report: A 51-year-old man who had received cervical manipulation came to the emergency unit with evolutive acute neck pain, cervical spine stiffness and odynophagia, without fever or other signs of identified pathology. Cervical X-ray and CT angiography of the supra-aortic vessels ruled out traumatic etiology (fracture or arterial dissection) and revealed an accessory bone, orienting diagnosis toward retropharyngeal abscess, which was, however, belied by endoscopy performed under general anesthesia. A second CT scan with contrast injection and tissue phase ruled out infection, revealing a retropharyngeal calcification inducing retropharyngeal edema. Evolution under analgesics was favorable within 13 days.

Discussion: Given a clinical triad associating acute neck pain, cervical spine stiffness and odynophagia, traumatic or infectious etiology was initially suspected. Cervical CT diagnosed calcific tendinitis of the longus colli, revealing a pathognomonic retropharyngeal calcification. Secondary to hydroxyapatite deposits anterior to the odontoid process of the axis, this is a rare form of tendinopathy, usually showing favorable evolution in 10–15 days under analgesic and anti-inflammatory treatment.

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Introduction

Acute neck pain associated with pharyngeal signs often triggers emergency consultation. Management is usually multidisciplinary. Failing to note a possible etiology may lead to misdiagnosis.

The case reported here illustrates this situation.

Case report

A 51-year-old man presented in emergency with acute mid-neck pain and cervical spine stiffness following a vertebral maneuver. As there were no clinical signs of local trauma
or of neurologic damage, no complementary examinations were performed. The patient was treated on an out-patient basis, with step-2 analgesics and a light cervical collar.

He returned 2 days later, with increased pain, stiff neck, headache, lower neck odynophagia and progressive dysphagia without false passage, and no determining clinical signs. The intensity of the pain necessitated step-2 analgesics followed by step 3, with associated sedatives (midazolam 1 mg, ketamine 10 mg).

C-reactive protein (CRP) was elevated, at 19 mg/L, without hyperleukocytosis. Cervical spine X-ray (Fig. 1) ruled out fracture; CT angiography of the supra-aortic vessels (Fig. 2a) ruled out arterial dissection and suggested tissue thickening without signs of effusion (no central hypodensity or peripheral enhancement). Radiologic interpretation of tissue density patterns suggested a retro-parapharyngeal fluid region of 45 × 10 mm in the axial plane by 64 mm high. ENT opinion was therefore sought. Nasofibroscopy found arching of the postero-inferior wall of the cavum. A diagnosis of retropharyngeal abscess was suggested, and the patient was admitted in ENT.

As functional signs worsened, upper aerodigestive tract endoscopy was performed under general anesthesia. The targeted retropharyngeal incision revealed no abscess; deep biopsies found inflammatory but non-malignant infiltrated mucus. A probabilistic regime of parenteral amoxicillin and clavulanic acid was initiated.

In the absence of established diagnosis, the arterial phase of the CT was insufficient for tissue analysis. A second cervical scan (Fig. 2b) found edematous infiltration of the retropharyngeal tissue and a calcification facing the lower edge of the anterior arch of the C1 vertebra (5.4 × 13 mm in the axial plane by 9 mm high). Inflammatory eruption secondary to cervical maneuver with calcific longus colli tendinitis was diagnosed.

As the patient had contraindications for non-steroidal anti-inflammatories (hives, Barret’s esophagus), treatment was based on step-3 analgesics. Evolution was favorable, with progressive resolution of pain and return to normal feeding after 4 days’ hospitalization (8 days after onset of neck pain). At 10 days’ evolution, control nasofibroscopy found almost complete resolution of the retropharyngeal effusion. Analgesia was terminated and the patient was discharged home the next day.

At 13 days’ evolution, cervical range of motion had recovered and the patient was free of pain without analgesics. At 20 days after initial consultation, the odynophagia had completely resolved.

Figure 1 AP cervical spine X-ray: radiolucency anterior to the C2 body, corresponding to the calcification. The pharyngeal lumen is narrowed by the thickened prevertebral soft tissue.

Figure 2 CT, axial slices: a: CT angiogram of supra-aortic vessels, without tissue phase: slice centered on the epiglottic vallecula. Diffuse infiltration of parapharyngeal spaces indicates local thickening; the liquid aspect is non-specific with respect to effusion; b: contrast-enhanced CT with tissue phase: slice centered on C2 body. The calcification shows up on bone contrast.
Discussion

First described in 1964, calcific tendinitis of the longus colli muscles [1], or retropharyngeal tendinitis [2–7], would seem to be relatively rare, with only 24 cases retrieved in a literature search in 1984 [8]. A 45-case series over the period 1989–2005, however, suggests that this low incidence may be due to overlooked diagnosis [7]. The population concerned is generally aged between 30 and 60 years, ranging in full from 21 to 81 years. Initial studies found no sex predominance [8], but recent publications reported a female predominance of 57–66% [4,7].

The three prevertebral longus colli muscles connect the transverse processes of the cervical vertebrae to the first three thoracic vertebrae and have a common tendon on the anterior tubercle of the atlas, which may receive hydroxyapatite deposits [2,5]. In case of inflammatory eruption, calcific tendinitis is revealed by a constant clinical triad of intense neck pain and impaired cervical motion followed by odynophagia, [8] cited by all authors [2–7,9].

Fever and infectious syndrome are commonly but not systematically associated.

ENT examination may find edema arching the posterior pharyngeal wall [4], impairing breathing.

Triggering factors are seldom traceable, except in rare cases of mild cervical trauma [8], or cervical maneuver [3,4].

Since 2012, this syndrome has been counted among the painful non-infectious craniofacial and cervical musculoskeletal pathologies, alongside temporal tendinitis, Eagle’s syndrome, glossopharyngeal neuralgia, carotidynia, etc. [9].

Lateral cervical spine X-ray can rule out traumatic etiology in emergency. The longus colli insertion calcification is located under the anterior arch of C1, facing the odontoid process of C2 [2,3,5]. Inflammatory thickening of C1 to C4 prevertebral soft tissue rules out accessory bone [2,5].

Contrast-enhanced CT with arterial and tissue phases is the key examination of this calcification for ruling out differential diagnoses [4,5,7,9], as:

- the initially confused presentation, with associated biological abnormalities, is suggestive of infectious pathology: abscess, adenitis or retropharyngeal cellulitis [4–6], spondylodiscitis, or osteomyelitis;
- cervical manipulation or trauma may cause vertebral artery dissection or cervical spine bone and discoligamentary lesion, or reveal a lytic tumoral process.

In the present case, diagnosis was missed on plain X-ray; the emergency CT scan, intentionally restricted to the arterial phase, failed to allow the necessary tissue analysis: absence of effusion, edema centered on the calcification anterior to C2–C4. A further contrast-enhanced scan with tissue phase would have enabled endoscopy under general anesthesia, which was non-contributive to diagnosis, to be avoided. Retrospectively, the calcification was visible (Figs. 1–3) and matched literature data [7] (Table 1).

In all reported cases, evolution has been favorable. Symptomatic treatment is based on associated analgesics and NSAIs; NSAIs provide relief, but do not seem to be essential for effective treatment or to reduce evolution time [4].

Pain peaks at 2–4 days’ evolution [2], then regresses and resolves within 10 to 15 days [2,5,7–9].

Recurrence is rare, but has been reported [2,8].

![Figure 3: 3D AP cervical spine CT reconstruction exposes the calcification: round, forked, located under the anterior C2 tubercle and forward of the C2 odontoid process.](image)

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Conclusion

Calcific longus colli tendinitis is relatively rare, with typically acute presentation: intense neck pain, cervical spine stiffness and odynophagia.

Contrast-enhanced CT scan with tissue phase is the examination of choice to confirm diagnosis by revealing the retropharyngeal edema centered on the calcification and ruling out infectious, traumatic or tumoral etiology.

Treatment is based on analgesics with or without associated NSAIs. Evolution is favorable within 10–15 days.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article

References


