Calcific retropharyngeal tendinitis of the longus colli muscle. Answer to the e-quid ‘‘Acute cervical pain and dysphagia in a 43 year-old man’’☆

F. Desmotsa,∗, R. Derkenneb, N. Couppeya, B. Martina, C. Gabaudana, Y. Geffroya

a Service d’imagerie médicale, hôpital d’instruction des armées A.-Laveran, BP 60149, 13384 Marseille cedex 13, France
b Service d’oto-rhino-laryngologie, hôpital d’instruction des armées A.-Laveran, BP 60149, 133384 Marseille cedex 13, France

Case report

A 43-year-old patient without noteworthy antecedents consulted his attending physician for dysphagia and diffuse cervical pain that has been evolving for three days. The patient was sub-febrile (38 °C). The clinical examination detected stiffness of the neck without neurological disorder. The ORL examination did not detect any significant anomaly, in particular in the tonsil region. The lab tests revealed mild hyperleukocytosis (12,000 GB/L) with neutrophils (11,000 G/L) and an ascension or C-reactive protein (60 mg/L). A cervical scan with the injection of iodine-based contrast products was carried out (Figs. 1 and 2).
Calcific retropharyngeal tendinitis of the longus colli muscle

What is your diagnosis?

After reading the case report, what diagnosis would you choose from the following proposals:
- retropharyngeal abscess;
- cervical spondyldiskitis;
- calcific retropharyngeal tendinitis;
- retropharyngeal cellulitis;
- acute inflammatory rheumatoid arthritis.

Diagnosis

Calcific retropharyngeal tendinitis of the longus colli muscle.

Comments

Figs. 3 and 4a reveal a hypodense and extensive oedematous infiltration of the retropharyngeal space without enhanced wall. The fatty pharyngeal spaces are respected. Cervical adenomegaly is not noted. Fig. 4b detects the presence of calcification located under the anterior arch of atlas, in front of C2 vertebral body in the left paramedian region within the prevertebral space. It is located at the spinal insertion of the upper fibres of the tendon of the longus colli muscle that appears to be thickened. The diagnosis is that of an inflammatory episode of calcific tendinitis of the longus colli muscle.

Figure 1. Axial CT section after injection of iodinated contract product.

Figure 2. Sagittal CT sections of the cervical vertebra in soft part window (a) and in bone window (b).

Figure 3. Axial CT section after injection of iodine confirming the presence of a retropharyngeal eoea without organised collection (no wall) (white arrow). Absence of suspect contrast of the oropharyngeal mucosa. Absence of cervical adenomegaly or paravertebral collection.
colli muscle, accompanied by a reaction oedema of the fatty retropharyngeal space. Medical treatment with analgesics and non-steroid anti-inflammatories over a short period of time quickly provided the patient with relief.

Discussion

The musculature of the prevertebral cervical space consists of the longus colli muscle and two long muscles from the head that are involved in the flexion of the nape of the neck. They are separated from the retropharyngeal space at the front by the deep cervical fascia. The longus colli muscle consists of a superior section, from the anterior tubercle of the atlas to the transverse process of C3 to C5, an inferior section from T1 to T3 to the transverse process of C1 to C6 and a middle section from C2 to C4 to the other cervical vertebrae as well as the first three thoracic vertebrae [1]. Calcific tendinitis of the longus colli muscle is rare, frequently under diagnosed, affecting the uppermost fibres of the tendon. Hartley first described it in 1964 [2]. In 1994, Ring et al. [3] described five non-diagnosed cases that led to inappropriate medical treatment and even an open biopsy. However, the latter lay the histopathological foundations of the disease by confirmation, with an electron microscope, of the presence of deposits of non-birefringent crystals on the tendon responsible for the inflammation. Therefore, a microcrystalline arthropathy is an integral part of the calcium phosphate deposition disease, which mainly affects the hips, shoulders, elbows, wrists and ankles.

It classically attacks a man or woman between the age of 30 and 60, complaining of quickly evolving acute cervical pain, whether or not contemporary with a cervical traumatism or a respiratory infection. It is often associated with dysphagia or odynophagia. Low-grade fever may be reported. An increase in the blood sedimentation rate and the CRP as well as hyperleukocytosis may be detected [4].

The CT scan is the reference examination for the diagnostic confirmation, due to the possibility of multiplane reconstructions, its sensitivity for the detection of calcifications and its ability to eliminate a great number of differential diagnoses (retropharyngeal abscess, oropharyngeal neoplasia, cervical spondylodisitis, spinal neoplasia). The calcification of the upper fibres of the longus colli muscle is pathognomonic of the diagnosis. The soft prevertebral parts may be thickened. A reaction oedema of the fatty retropharyngeal space is often found [5,6]. The MRI lacks sensitivity for the detection of calcifications. However, its excellent resolution in contract may reveal an inflammation of the muscle and the oedematous suffusion of the retropharyngeal space. The degree of calcification varies greatly, without any correlation with the clinical impairment. The lack of peripheral enhancement of the retropharyngeal oedema, cervical adenopathy, enhancement anomaly of the mucosa of the upper aerodigestive tract or the salivary glands, osteolytic imaging of the cervical vertebral body are negative arguments that reinforce the diagnostic hypothesis [6]. The treatment of this disorder is medical and consists of the use of analgesics and non-steroid anti-inflammatories and rest (cervical collar). Corticoids may also be used.

Conclusion

Calcific tendinitis of the longus colli muscle is a rare disorder. Knowledge of its deceptive clinical manifestations and its anatomo-radiological characteristics helps avoid diagnostic errors and the prescription of treatments that, at best are useless (antibiotics) or even dangerous (biopsy) [7]. The presence of calcifications at the vertebral insertion (C1 and C2) of the upper fibres of the longus colli muscle is pathognomonic. A retropharyngeal oedema reaction is often associated.

Figure 4. Sagittal CT sections in soft part window (a) and bone window (b) confirming the presence of a left paramedian calcification in the cervical prevertebral space (white arrow) at the upper insertion of the tendon of the longus colli muscle which is thickened (in front of C2). Pathognomonic image of calcific tendinitis of the longus colli muscle. The absence of a scanographic argument in favour of cervical spondylodisitis should be noted.
Disclosure of interest
The authors declare that they have no conflicts of interest concerning this article.

Acknowledgements
Dr Jean-Jacques Pinot.

References