

류마티스관절염 환자에서 발생한 인두 뒤 석회힘줄염 1예

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= Abstract =

Calcific Tendinitis of the Longus Colli Muscle in a Patient with Rheumatoid Arthritis

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인두 뒤 석회힘줄염(Calcific tendinitis of the longus colli muscle)은 제 1경추부터 제 3경추 척주의 앞면에 위치한 경장근에 무정형 석회화(amorphous calcification) 침착으로 발생하는 염증성 질환이다. 임상적으로는 급성 발병의 연하통과 연하곤란, 인후통, 경부통증 및 경추운동의 제한이 특징이다. 인두 뒤 석회힘줄염은 매우 드문 질환이고 비 특이적인 임상증상을 보이기 때문에 이러한 증상들이 나타났을 때 진단이 어려울 수 있고 오진 될 가능성이 있다. 감별 진단으로 급성 중증 질환인 인두 뒤 농양, 뇌막염, 감염성 척수염, 감염성 척추추간판염, 경추 추간판탈출증 등이 있고 확진을 위한 영상의학적 소견이 매우 중요하다. 국내에서는 인두 뒤 석회힘줄염의 증례가 매우 드물었고 특히 류마티스관절염 환자에서는 보고된 바가 없었다. 본 저자들은 48세 류마티스관절염을 앓고 있던 여자 환자가 급성 경부강직과 통증이 발생하자 상기 언급한 급성 중증 질환 외에 류마티스관절염 악화에 의한 고리중쇠뼈 불완전 탈구를 함께 감별진단 했던 급성 인두 뒤 석회힘줄염 증례를 문헌 고찰과 함께 보고 하고자 한다.

Key Words: Calcific tendinitis, Calcium hydroxyapatite, Longus colli muscle, Rheumatoid arthritis

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INTRODUCTION

Calcific tendinitis of the longus colli muscle, which is located on the anterior surface of the vertebral column and extends from the atlas to the third thoracic vertebra, is an inflammatory condition caused by the deposition of amorphous calcified crystals. Its clinical features have been similar in the cases reported, and include the acute onset of odynophagia, dysphagia, sore throat, pain, and a limited range in the cervical spine (1). This condition can easily be overlooked or misdiagnosed because of its rather non-specific presentation and rare occurrence. Therefore, other serious conditions, such as retropharyngeal abscess, meningitis, infectious spondylitis and spondylodiscitis, and a herniated disc in the cervical spine should be considered in the differential diagnosis. We report an unusual case of retropharyngeal calcific tendinitis in a patient with rheuma-

toid arthritis (RA), demonstrated by radiographic imaging studies, including computed tomography (CT) and magnetic resonance imaging (MRI).

CASE REPORT

A 48-year-old woman was admitted to our hospital with principal complaints of neck pain and stiffness, sore throat, and dysphagia of three days' duration. The pain was predominantly located in the cervical region, with radiation to the occiput area. RA had been diagnosed five years earlier, and her RA disease activity had been controlled well with prednisolone, cyclosporine, nabumetone, hydroxychloroquine, and methotrexate. There was no history of recent trauma. The patient's blood pressure was 130/90 mmHg, her pulse was 76 beats per minutes, her temperature 36.5°C, and her oxygen saturation 98% in room air. A physical examination revealed a tender cervical spine with a severely limited

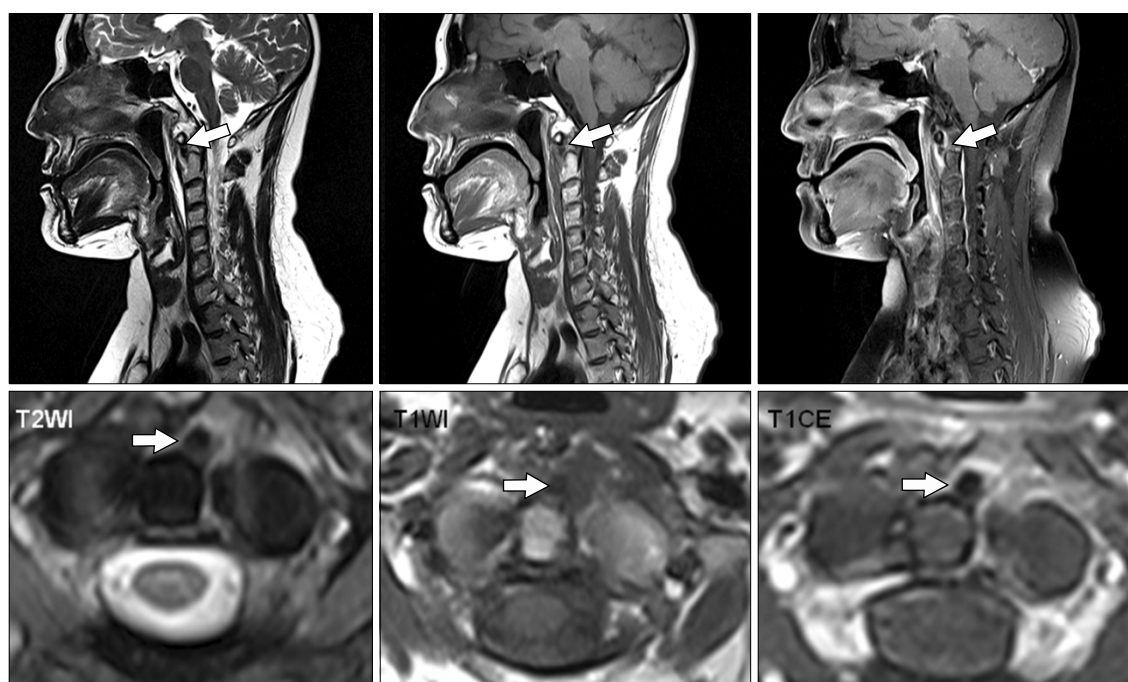


Fig. 1. Nodular calcification (4.8×4.3×7 mm) that is located within the left-side longus colli muscle appears as low signal intensity on all the imaging sequences (white arrow). The prevertebral effusion is seen around the nodular calcification and the adjacent longus colli muscle.

range of motion in all directions. The pain was exacerbated by swallowing and during passive and active motion of the cervical spine, and was particularly pronounced with extension. No mass or adenopathy was noted. The mucosa of the oropharynx and nasopharynx were intact, with no evidence of erythema or edema. A neurological examination was normal. Laboratory tests revealed a white blood cell count of $9.5 \times 10^9/L$ ($4.0 \sim 10 \times 10^9$) with a normal differential. The patient's C-reactive protein (CRP) level and erythrocyte sedimentation rate (ESR) were elevated to 1.69 mg/dL ($0 \sim 0.3$) and 42 mm/h (normal $0 \sim 22$), respectively. Her previous level of CRP had been 0.04 mg/dL and her ESR 17 mm/h. A possible diagnosis of infection and atlantoaxial subluxation was initially considered. A plain radiograph of the cervical spine demonstrated soft-tissue swelling from the skull base to the C2 level. An MRI revealed prevertebral soft-tissue swelling from C1 to C4. T2-weighted imaging showed increased signal intensity attributed to fluid collection and a nodular lesion with hypointense signal intensity, which was presumed to be calcification (Fig. 1). Non contrast CT of the cervical spine revealed soft-tissue swelling and nodular calcification within the tendons of the longus

colli muscle near the C1 insertion sites (Fig. 2). Radiographic imaging of this patient showed no evidence of atlantoaxial subluxation. A diagnosis of acute calcific tendinitis of the longus coli muscle was established. Because of the self-limiting course of this inflammatory condition, a regimen of nonsteroidal anti-inflammatory drugs (NSAIDs) was initiated, with a prompt clinical response. One week after the initiation of treatment, the patient was discharged from hospital without any residual symptoms. Her ESR and CRP were decreased to 13 mm/h and 0.02 mg/dL, respectively. No recurrent attacks occurred during a two-year follow-up period.

DISCUSSION

Acute calcific tendinitis of the longus colli muscle is a clinical syndrome first described by Hartley in 1964 (2). This syndrome occurs most frequently in the third to sixth decades of life, but has been reported in patients as old as 81 years (3). The pathogenesis of calcium hydroxyapatite crystal deposition observed in calcific tendinitis is still not entirely clear. This disease entity seems to be associated with certain genetic and metabolic causes, and possible risk factors include chronic

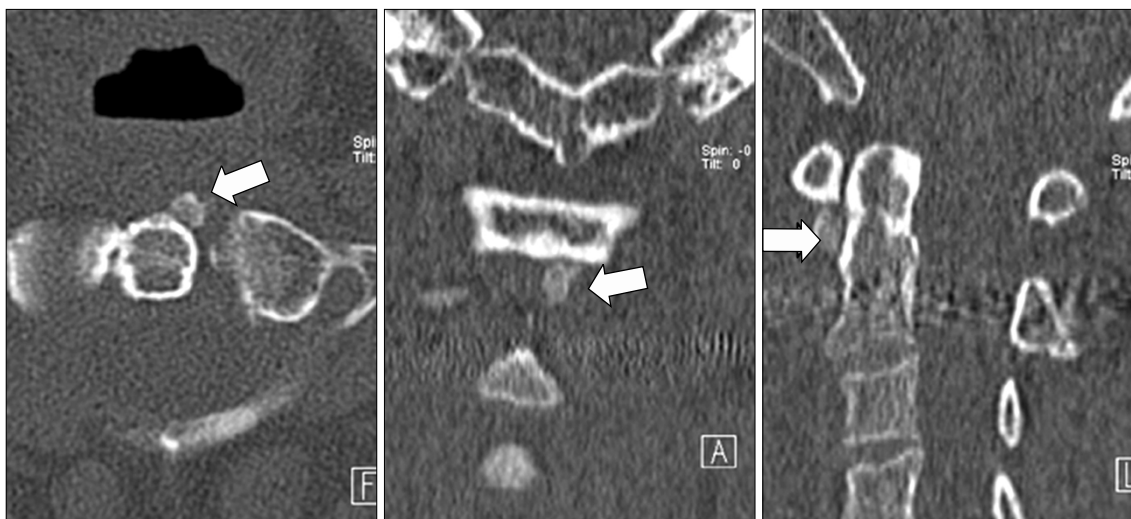


Fig. 2. The axial and reformatted coronal and sagittal CT images well show the nodular calcification (white arrow), which is anterior to the axis and inferior to the anterior arch of the atlas.

trauma, inflammation, and tendinous degeneration (4). The longus colli muscle is an uncommon location for this syndrome, which more typically involves the large joints, such as the hips or shoulders (e.g., calcific tendinitis of the supraspinatus tendon). The longus colli muscle is located in the prevertebral space, extending from the anterior tubercle of the atlas to its inferior attachments at T3. The superior oblique portion, which inserts in the transverse processes of C3-C5 and extends superomedially into the atlas, is the region that becomes involved in this condition (5). Calcific tendinitis of the longus colli muscle is an uncommon cause of neck pain. Therefore, a diagnostic evaluation of the more common causes of neck pain, which include but are not limited to trauma, inflammation, infection, and neoplasia, should always be performed before the possibility of calcific tendinitis is considered (6). Its non-specific clinical features pose challenges to clinicians in diagnosing this rare clinical entity, especially without the aid of imaging studies. Mild fever may be evident, perhaps secondary to the inflammation of the surrounding soft tissues. Laboratory data are usually normal, although inflammatory changes may be observed (7). Cervical spine radiographs show calcification anterior to C1 and C2 and the prevertebral soft tissues, a typical finding of calcific tendinitis of the longus colli muscle. However, calcification may not be evident on a plain radiograph, as illustrated in our patient, and only diffuse soft-tissue swelling in the prevertebral C1-C4 area may provide a diagnostic clue. The pathognomonic radiographic findings consist of calcific density in the prevertebral soft tissues on lateral radiographs of the neck and on CT, typically at the C1-C2 level, and associated soft-tissue swelling (8). Soft-tissue thickening represents either discrete effusion or diffuse edema, which can be differentiated on CT or MRI. Diffuse swelling of the longus colli muscle appears as a prominent high signal in the prevertebral region on T2-weighted MRI (9). MRI is not typically necessary for a diagnosis, but can sometimes demonstrate marrow edema in the adjacent vertebrae (10).

The symptom of neck pain was important in our RA patient because the cervical spine is involved in 30~50% of patients with RA. The pathological lesions of RA include chronic inflammation of the synovial membrane, bone erosion, and weakening of ligament insertions. These can lead to instability, with potential impingement on the spinal cord, similar to at atlantoaxial subluxation. Radiographic imaging showed no evidence of atlantoaxial subluxation in our patient. Calcification of the ligaments surrounding the odontoid process of the axis has rarely been reported in patients with RA (11), and to the best of our knowledge, this is the first report describing calcific tendinitis of the longus colli muscle in a patient with RA. Acute calcific tendinitis of the longus colli muscle is a self-limiting condition and resolves spontaneously after 1~2 weeks. An early diagnosis is important to avoid invasive diagnostic and therapeutic procedures. NSAIDs can provide effective relief of the symptoms. Apart from the typical calcification and soft-tissue swelling, the improvement of all symptoms with NSAIDs can confirm the diagnosis of acute calcific tendinitis of the longus colli muscle.

SUMMARY

We have presented an unusual case of acute retropharyngeal calcific tendinitis in a patient with RA, with its characteristic radiographic findings on CT and MRI.

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