

Neuroimaging Highlight

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An Interesting Case of Nuchal Rigidity

Submitted by: Christina Boettcher, Clemens Warnke, Stephan Macht, Hans-Peter Hartung, Bernd C. Kieseier

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A 34 year-old female without prior relevant medical history presented to our emergency room with a two-day history of neck pain, odynophagia and elevated body temperature up to 38.2° C. Her general practitioner had started the patient on antibiotic treatment with ciprofloxacin and referred her to our emergency department for further diagnostic workup and treatment of suspected meningitis. Initial neurological examination revealed neck rigidity and head pain without further focal neurological signs. Body temperature was 37.7 °C, blood analyses revealed a normal leukocyte count (8.900/ μ l) and normal C-reactive protein (<0.3mg/dl), blood cultures were sterile. Lumbar puncture was without pathological findings (<1 leukocytes/ μ l, normal levels for glucose, lactate and protein). Cervical magnetic resonance imaging could rule out osseous injury and cervical myelopathy, however a small prevertebral, retropharyngeal fluid collection was visible (Figure 1a-c). This prompted the diagnosis of acute retropharyngeal calcific tendinitis (RCT). This diagnosis was confirmed by conventional x-ray showing the presence of a characteristic amorphous calcification in the retropharyngeal space anterior to the C1-C2 segments (Figure 1d). Treatment with i.v. methylprednisolone (250mg) was started and pain was reduced shortly after the first infusion. The patient was discharged on tapered oral methylprednisolone and non-steroidal anti-inflammatory drug (NSAID) treatment. Symptoms resolved completely within a week.

Acute retropharyngeal calcific tendinitis remains an important and probably underdiagnosed differential diagnosis of acute neck rigidity, although specific numbers on the frequency of this condition are not available. It is characterised by acute or subacute onset of severe neck pain (94% according to the current literature), limited range of motion (45%), odynophagia (45%), neck stiffness (42%), dysphagia (27%), sore throat (17%), and neck spasm (11%) and it may mimic more severe causes of neck pain such as meningitis, traumatic injury, cervical myelopathy or retropharyngeal abscess¹. Computer tomography is considered the optimal test to confirm pathognomonic calcification in the tendon of the longus colli muscle and may also show retropharyngeal fluid collection². However, as in our case, conventional x-ray may be sufficient. Thus, x-ray in combination

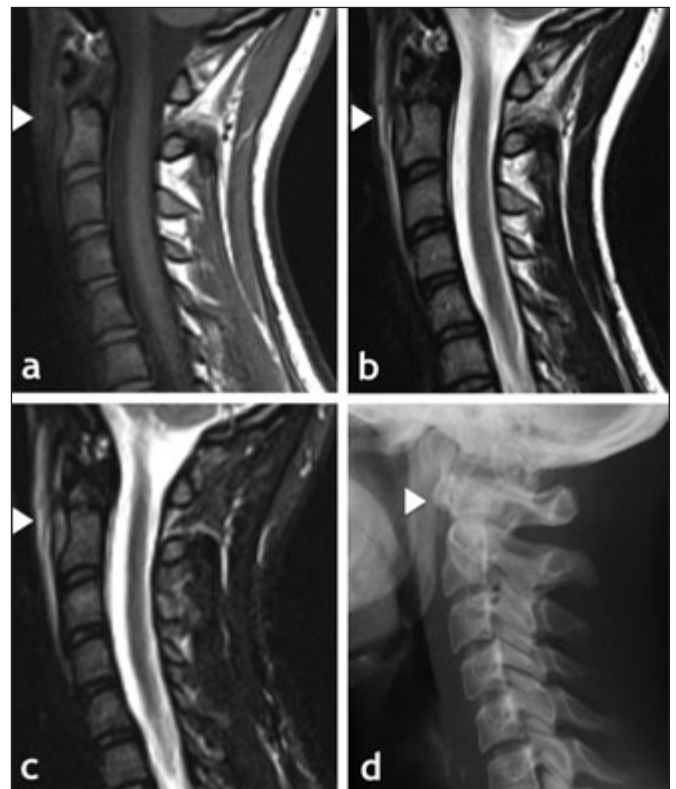


Figure: Prevertebral fluid collection at the level of C1 and C2 (arrow head) as demonstrated by T1- (a), T2- (b), and short TI inversion recovery (STIR)-weighted magnetic resonance images (c); plain lateral radiograph of the cervical spine shows amorphous calcification (d).

From the Department of Neurology (CB, CW, HPH, BCK), and the Department of Radiology (SM), Heinrich-Heine University, Düsseldorf, Germany.

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Correspondence to: Bernd C. Kieseier, Department of Neurology, Heinrich-Heine-University, Moorenstrasse 5, 40225 Düsseldorf, Germany (bernd.kieseier@uni-duesseldorf.de).

with magnetic resonance imaging may prevent unnecessary radiation from patients when considering this differential diagnosis. Treatment usually consists of steroids given orally or i.v. steroids and NSAIDs but even without treatment pain frequently resolves within 14 days of onset^{3,4}.

Recognition of the pathognomonic imaging appearance of RCT allows for easy diagnosis preventing unnecessary tests and treatment of this rare, benign etiology of non-traumatic nuchal rigidity.

REFERENCES

1. Park R, Halpert DE, Baer A, Kunar D, Holt PA. Retropharyngeal calcific tendinitis: case report and review of the literature. *Semin Arthritis Rheum.* 2010;39:504-9.
2. Offiah CE, Hall E. Acute calcific tendinitis of the longus colli muscle: spectrum of CT appearances and anatomical correlation. *Br J Radiol.* 2009;82:e117-21.
3. Leep Hunderfund AN, Robertson CE, Bell ML, Busby DJ, Koehler TF, Ireland SP. Calcific retropharyngeal tendinitis: unusual cause of acute neck pain with nuchal rigidity. *Neurology.* 2008;71:778.
4. Jiménez S, Millán JM. Calcific retropharyngeal tendinitis: a frequently missed diagnosis. Case report. *J Neurosurg Spine.* 2007;6:77-80.