EJR European Journal of Rheumatology

DOI: 10.5152/eurjrheum.2022.21033

Images in Rheumatology

# Tracheobronchopathia osteochondroplastica and cervical spine involvement in rheumatoid arthritis

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A 62-year-old man presented to our outpatient clinic with a neck pain that began 4-month ago. The pain was increasing in severity without any neurological symptom or radiating to arms. The patient had a history of cerebrovascular accident without sequelae (1 year ago), 40 pack-year smoking, and diagnosis of rheumatoid arthritis (RA) 10 years ago. He had received an irregular treatment with prednisolone, methotrexate, and rituximab (discontinued 2 years ago).

On physical examination, a range of neck movements were found to be restricted and painful in all directions, and postural asymmetry was noted. There were bilateral rheumatoid nodules and flexion contractures in elbows. Bilateral hand involvement of RA was seen including deformities of fingers, ulnar deviation, and synovial hypertrophy of metacarpophalangeal joint (MCP) joints. Neurological examination was normal, and bilateral pulmonary crepitant rales were heard on auscultation.

Laboratory testing revealed elevated serum levels of C-reactive protein (CRP) (15 mg $L^{-1}$ [normal < 5]), RF (161 IU $mL^{-1}$ [normal < 20]), and anti-cyclic citrullinated peptide (CCP) (282 U $mL^{-1}$ [normal < 17]). Thorax CT showing nodular irregularity and multiple punctate calcification in the proximal trachea (with sparing membranous posterior wall) suggested the diagnosis of tracheobronchopathia osteochondro-

**Figure 1.** Unenhanced axial CT images in mediastinal window show nodular, calcified, irregular thickening of inner tracheal surface (arrows) with sparing of the posterior wall.

**Figure 2.** Unenhanced sagittal CT images in mediastinal window show nodular, calcified, irregular thickening of inner tracheal surface (arrows) with sparing of the posterior wall.

**Figure 3.** CT-generated 3D reconstruction images show multiple calcified cartilaginous nodules of the tracheal wall (arrows) with sparing of posterior wall.

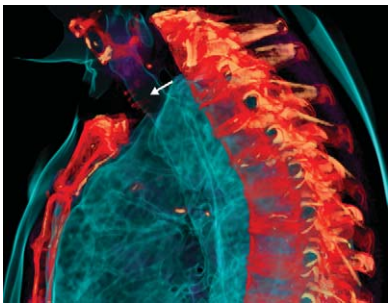

**Figure 4.** CT-generated 3D reconstruction images show multiple calcified cartilaginous nodules of the tracheal wall (arrows) with sparing of posterior wall.

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**Cite this article as**: Hindioğlu N, Doğan MB, Can M. Tracheobronchopathia osteochondroplastica and cervical spine involvement in rheumatoid arthritis. *Eur J Rheumatol.* 2022;9(3):182-183.

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Submitted: February 9, 2021
Accepted: March 24, 2021
Available Online Date: January 21, 2022

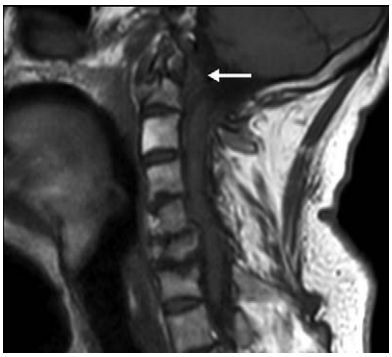

**Figure 5.** MRI of the cervical spine with pre-contrast and post-contrast T1W images show intense contrast enhancement (arrows) of pannus formation behind the odontoid process indicated inflammation of the right atlantoaxial joint.

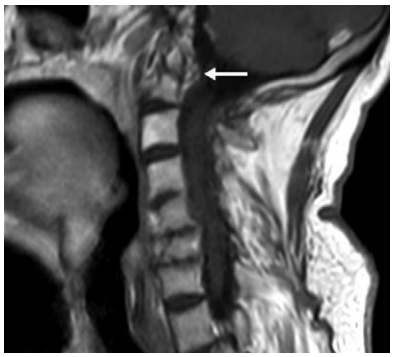

**Figure 6.** MRI of the cervical spine with pre-contrast and post-contrast T1W images show intense contrast enhancement (arrows) of pannus formation behind the odontoid process indicated inflammation of the right atlantoaxial joint.

plastica (TO) (Figures 1-4). Cervical vertebra MRI demonstrated basilar invagination, cervical spondylosis, and contrast enhancement supporting inflammation of right atlantoaxial joint (Figures 5, 6). Surgery was not indicated because of the absence of neurological impairment or finding of mechanical instability. Etanercept (50 mg $w^{-1}$) was added to treatment plan. At the 3rd month follow-up, CRP level declined to 2 mg $L^{-1}$, and decreasing of the neck pain was observed.

TO is an acquired disorder of trachea. This benign condition is characterized by diagnostic radiographic features.[1] Our aim is to emphasize that the rheumatological diseases may be associated with the increased incidence of TO in consequence of chronic inflammation as being the possible underlying mechanism.[2] The adequate control of disease activity plays an important role to prevent both TO and cervical spine involvement in RA.[3]

**Informed Consent:** Informed consent was obtained from the patient.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept - N.H., M.B.D., M.C.; Design - N.H., M.B.D., M.C.; Supervision - M.C.; Materials - M.B.D., M.C.; Data Collection and/or Processing - N.H., M.B.D.; Analysis and/or Interpretation - N.H., M.B.D., M.C.; Literature Review - N.H.; Writing - N.H., M.C.; Critical Review - M.B.D., M.C.

**Declaration of Interests:** The authors have no conflicts of interest to declare.

**Funding:** The authors declared that this study has received no financial support.

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