

Laryngeal stridor in rheumatoid arthritis

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A 64-year-old Indigenous woman with seropositive erosive nodular rheumatoid arthritis presented to a rural hospital with three weeks' history of progressively worsening dysphonia,odynophagia, dyspnea and stridor. For the past eight years, she had been treated for peripheral symmetric polyarthritis, which progressed to erosive nodular deforming disease despite early initiation of triple therapy (methotrexate, sulfasalazine, hydroxychloroquine) and escalation to biologics including golimumab, abatacept (both primary failure) and rituximab (secondary failure). Noncontrast computed tomography (CT) scan of the neck showed left vocal cord medialization (Figure 1A), cricoarytenoid joint arthritis, and a 2 cm prominence in the hypopharyngeal region (Figure 1B). In addition, there was extensive destructive disease of the dens and a pathologic fracture dislocation of the residual odontoid, with substantial anterior translation of C1 to C2. She was placed in a rigid neck collar for cervical spine stabilization and intubated for emergent upper airway obstruction. Consistent with the CT finding (Figure 1A), during fibre-optic intubation, her left vocal cord was noted to be fixed in adduction. No bamboo nodes were seen. She was transferred to a tertiary centre for tracheostomy and further work-up.

After tracheostomy, a CT scan of the neck with contrast characterized the hypopharyngeal prominence, showing a 19 mm × 13 mm fluid-filled synovial pannus pouching from the left cricoarytenoid joint (Figure 1B). The diagram in Figure 1D illustrates this finding anatomically. The coupling of unilateral vocal cord fixation with the large synovial pannus was likely the ultimate cause of her upper airway emergency. Differential diagnosis of the hypopharyngeal lesion also included rheumatoid nodules, malignant disease and infections; in particular, tuberculosis. Further workup confirmed a link between our patient's synovial pannus and her severe rheumatoid arthritis (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.170808/-/DC1). After eight weeks of treatment with tocilizumab, our patient experienced substantial clinical improvement; repeat laryngoscope confirmed mobile vocal cords bilaterally. She had successful decannulation. Repeat CT showed symmetry of the vocal cords and decreased size of the synovial pannus.

Cricoarytenoid joint involvement in rheumatoid arthritis is uncommon. It can be asymptomatic or minimally symptomatic with dysphonia, foreign body sensation, cough and dyspnea.¹⁻³ Prompt recognition of signs of cricoarytenoid arthritis promotes early diagnosis and escalation of therapy to prevent such life-threatening late complications.

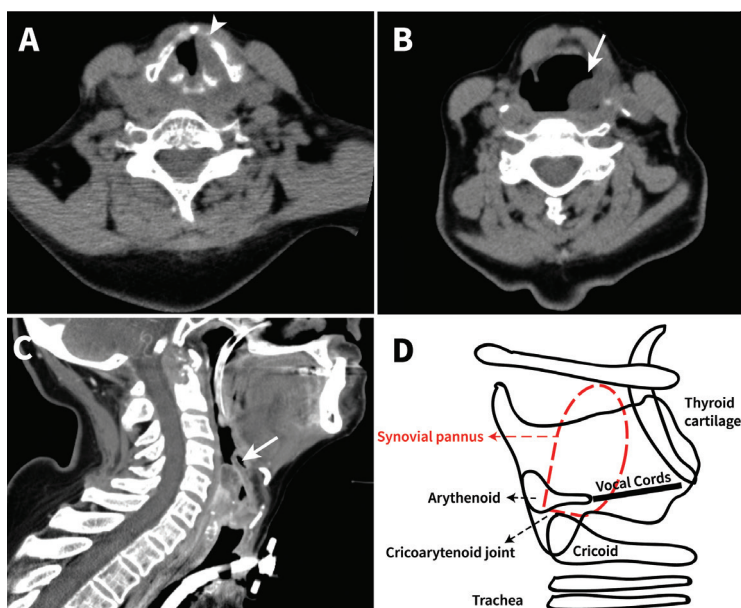


Figure 1: Computed tomography (CT) images of the neck of a 64-year-old woman with laryngeal stridor. (A) Cross-sectional view of vocal cords showing medialization of the left vocal cord (arrowhead). (B) Cross-sectional view of left hypopharynx showing a prominence extending into the supraglottic region (arrow). (C) Lateral view of the neck after tracheostomy, showing fluid-filled synovial pouch from left cricoarytenoid joint extending above the vocal cord, obstructing the upper airway (arrow). (D). Schematic illustration of the larynx (lateral view) showing location of the synovial pouch (red dotted line).

References

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