Dysphagia and dyspnea due to osteophyte formation in the cervical spine

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CASE

An 87-year-old man with a history of hypertension, osteoarthritis, benign prostatic hypertrophy, and multiple past hospital admissions for possible retropharyngeal abscesses presented to the emergency department (ED) with a 6-month history of shortness of breath and dysphagia. This patient had been admitted for similar symptoms two times in the month prior. During the first admission, he was intubated and transferred for a suspected retropharyngeal abscess after he presented to an outside hospital with trouble breathing and stridor. Repeat computed tomography (CT) of the neck showed no drainable abscess, but there was subcutaneous emphysema in his neck and retropharyngeal phlegmon with anterior C2–3 osteophyte. The ENT consultant recommended IV antibiotics, including vancomycin, cefepime, and clindamycin, for suspected necrotizing fasciitis. A modified barium swallow study showed aspiration multiple times during study with frank penetration on thin liquids. He was discharged on a minced and moist diet 7 days later.

The patient presented to the ED 2 days following discharge with the same complaints, and physical examination revealed moderate respiratory distress with audible stridor which improved with upright position. Computed tomography of the neck revealed a large anterior bridging C2–C3 osteophyte effacing the posterior oropharynx with no abscess (Figure 1). Magnetic resonance imaging (MRI) illustrated an exaggerated cervical lordosis with the epicenter at C2–3 and large anterior bridging osteophyte (Figure 2). The

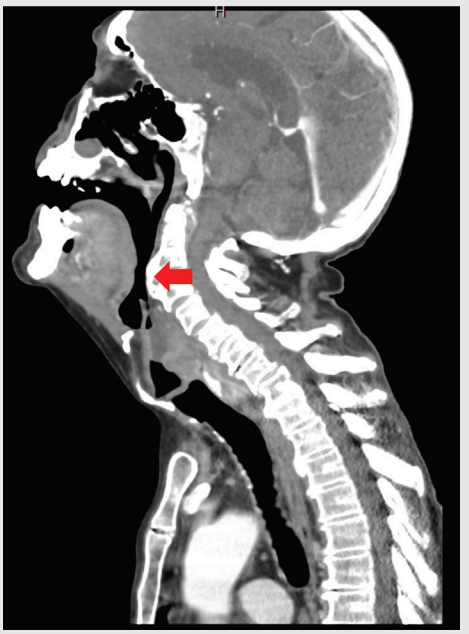

Figure 1. Computed tomography illustrating large anterior bridging C2–C3 osteophyte.

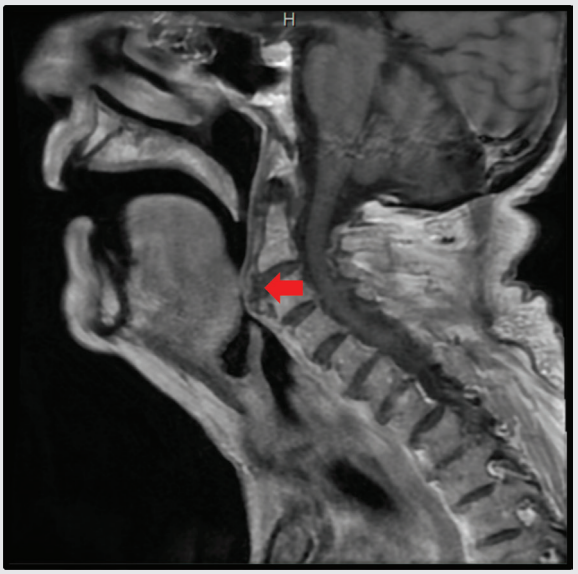

Figure 2. Magnetic Resonance Imaging (MRI) illustrating exaggerated cervical lordosis with the epicenter at C2–3. Large anterior bridging osteophyte.

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Neurosurgery service was consulted, and surgical intervention was not recommended due to the high risk of worsening dysphagia and risk of spreading infection from retropharyngeal phlegmon into the spinal column. He was treated with corticosteroids and empirical antibiotics and discharged 7 days later. He was readmitted 9 days later with the same complaints: shortness of breath and audible stridor. His voice was peculiar, and the speech therapist described it as "rough, gravelly, effortful, with intermittent breathiness due to weak breath support for speech." After a family meeting, the decision was made to pursue home care with hospice due to chronic upper airway obstruction due to osteophyte of vertebrae.

Discussion

Osteophytes are smooth bony protuberances that grow off bone over long periods of time. These growths usually occur in individuals over 60 years of age, are usually near joints, and are much more likely in individuals who have osteoarthritis.[1] Patients who have osteophytes usually aren't aware of them until they restrict movement or add pressure to nerves and surrounding structures. This can lead to numbness and weakness, pain near the joint, a reduction in the range of motion of a joint, tendinitis, or tendon tears.

Airway compression with resultant shortness of breath due to osteophytes is rare.[2] A literature review conducted in 2002 revealed only 4 reported cases since 1987, all of which were associated with upper cervical osteophytes at C2 and C3.[3] In cases like those and this patient, the osteophyte intrudes on the posterior pharyngeal wall and larynx causing an obstruction to breathing and swallowing. Other cases can involve osteophytes from C4 to C7 which intrude on the posterior esophagus causing dysphagia but no airway obstruction. Cases of dysphagia due to osteophyte intrusion seem to be more common.[4] Treatment for airway obstruction due to an osteophyte includes surgical resection without fusion, but some patients are not candidates due to other comorbidity.[5]

Keywords: cervical osteophytes, dyspnea, dysphagia

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References

1. Cleveland Clinic. Bone Spurs (osteophytes): Causes, symptoms, diagnosis & treatment. 2020 Available from: https://www.citationmachine.net/apa/cite-a-website/new
2. Seo JW, Park JW, Jang JC, et al. Anterior cervical osteophytes causing dysphagia and paradoxical vocal cord motion leading to dyspnea and dysphonia. Annals of Rehabilitation Medicine, 2013;37(5):717.
3. Matan AJ, Hsu MJ, Fredrickson BA. Management of respiratory compromise caused by cervical osteophytes. The Spine J 2002;2(6):456–459.
4. Chen Y.-R., Sung K, Tharin S, Symptomatic anterior cervical osteophyte causing dysphagia: case report, imaging, and review of the literature. Cureus, 2016.
5. Lecerf P, Malard O. How to diagnose and treat symptomatic anterior cervical osteophytes? European Annals of Otorhinolaryngology, Head and Neck Diseases 2010;127:111–116.