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Eagle Syndrome Presenting in a Patient as Dysphagia and Failed Intubations

Alison Bradley

Henry Ford Health System, abradle4@hfhs.org

Natalie Stec

Henry Ford Health System, nstec1@hfhs.org

Sean Drake

Henry Ford Health System, sdrake1@hfhs.org

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Introduction

Eagle Syndrome is a rare elongation of the styloid process or calcification of the stylohyoid ligament. Most cases are asymptomatic but compression on head and neck structures can result in dysphagia and neck pain. The etiology of the condition was originally attributed to surgical scar tissue but further studies have not found this relationship and additional study of the condition has been challenging due to limited symptomatic presentation¹.

Case Report

A 52 year-old male with a surgical history of childhood tonsillectomy presented to the hospital with shortness of breath. He developed sudden onset dyspnea and pink frothy sputum. His oxygen saturation quickly decreased and he was placed on BiPap in the emergency department. His chest X-ray revealed flash pulmonary edema and he was admitted for hypoxic respiratory failure.

Within three days his status was complicated by bacteremia and atrial fibrillation. The cardiology team recommended a trans-esophageal echo (TEE) before discharge. He was unable to tolerate TEE with moderate sedation and intubation under general anesthesia was planned as an alternative. Three intubation attempts failed despite fiberoptic and glidescope assistance. During the attempts limited neck and laryngeal tissue mobility were noted on the patient.

Follow-up imaging of CT neck and chest showed complete calcification of the left stylohyoid ligament that extended from the styloid process to the hyoid bone. Post-procedure he reported dysphagia, with both solids and liquids, and hoarseness. Swallow studies and flexible laryngoscopy showed oropharyngeal dysphagia and silent aspiration with nectar thick liquids. He was not able to tolerate a naso-gastric tube for feeding and was placed on total parenteral nutrition pending a gastrostomy tube.

The patient's difficult intubation status made him a high risk for gastrostomy tube placement and required consults to gastroenterology, general surgery and interventional radiology teams. Ultimately, acute care surgery was able to place a percutaneous endoscopic gastrostomy tube under conscious sedation without complication.

Images

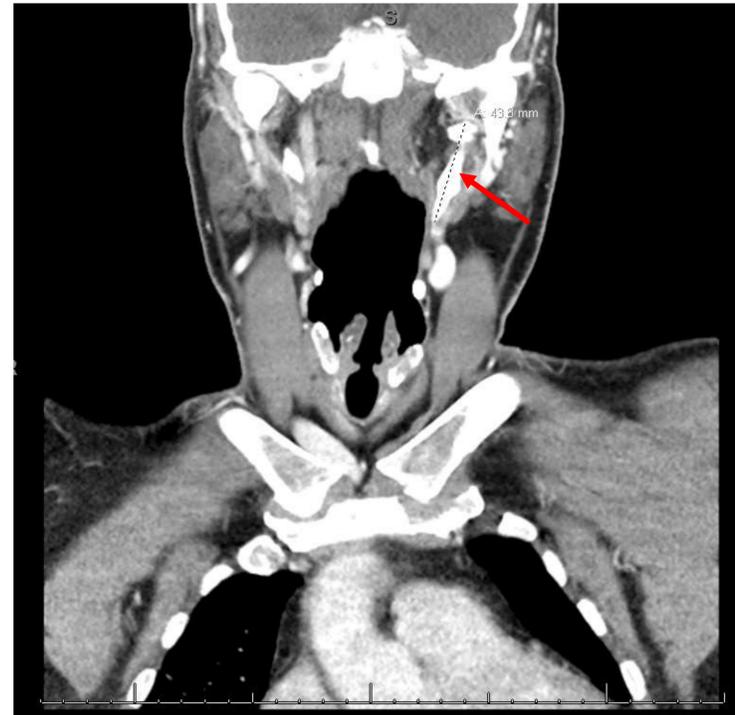


Figure 1. CT Soft tissue neck with IV contrast in the coronal view of the patient highlighting the left calcified stylohyoid ligament

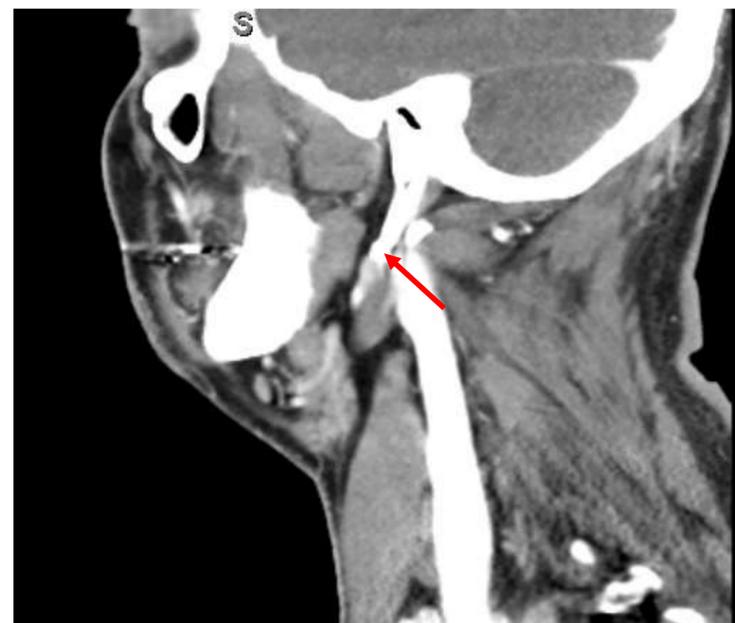


Figure 2. CT Soft tissue neck with IV contrast in the sagittal view of the patient highlighting left calcified stylohyoid ligament

Discussion

Eagle syndrome is often described in literature as recurrent throat pain, foreign body sensation, dysphagia, or facial pain associated with an abnormal styloid process or stylohyoid ligament.¹ However, studies have found that only 4-10% of people with elongation report pain or these other non-specific symptoms.² Although the patient described dysphagia post-procedure, this case illustrates an interesting presentation of eagle syndrome primarily as an inability to intubate the patient. Prior to multiple intubation attempts, he had not presented with the more commonly seen symptoms and his condition went undiagnosed.

The patient's presentation complicated both his cardiac workup and later his nutritional intake. His dysphagia caused aspiration which limited oral nutritional intake, but his difficult intubation status made him a high risk candidate for gastrostomy tube placement. Ultimately his workup and treatment required inter-specialty coordination and problem solving in order to avoid the need for intubation and safely place a gastrostomy tube. He was referred outpatient to otolaryngology and neurology for further studies and follow-up management.

Conclusion

Eagle syndrome presentation is not only limited to symptomatic complaints of pain and dysphagia, but can also present as difficult intubation. The silent nature of this condition can complicate procedures that a patient may need that require sedation and intubation, and most importantly can pose a risk in emergency situations should intubation be needed for life saving measures. Extra care and consultation between specialties is needed to identify this syndrome and coordinate care that minimizes risk for patients.

References

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2. Hardin, F. M., Xiao, R., & Burkey, B. B. (2018). Surgical management of patients with Eagle syndrome. *American Journal of Otolaryngology*, 39(5), 481–484. doi: 10.1016/j.amjoto.2018.05.003