

# Laryngeal Foreign Body Retrieval in Setting of Limited Cervical Mobility

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## INTRODUCTION

A foreign body (FB) in the larynx can be life-threatening. Management includes securing the airway followed by retrieval of the FB with a laryngoscope<sup>1,2</sup>. We present a patient with a partial obstruction from a considerably large FB who was unable to undergo direct laryngoscopy due to severely limited cervical mobility secondary to ankylosing spondylitis (AS) whose FB was successfully removed with positional change and controlled blows to the back.

## PRESENTATION

A 68 year old male with a past medical history of AS presented to the emergency department (ED) with the complaint of the sensation of FB in his throat for hours. The patient was eating a burger when he swallowed a large bite, and could feel the food bolus lodged on the right side of his throat. Upon arrival to the ED, the patient denied chest pain, shortness of breath, heartburn/reflux, or nausea/vomiting. The patient had stable vitals without any signs of respiratory distress.

## REFERENCES

1. Rafanan AL, Mehta AC. Adult airway foreign body removal. What's new?. Clin Chest Med. 2001;22(2):319-330. doi:10.1016/s0272-5231(05)70046-0
2. Sikdar A, Mishra S, Nivsarkar S, Agrawal R, Phatak S. Glottic Foreign Body Removal: A Novel Approach. Indian J Pediatr. 2018;85(7):597. doi:10.1007/s12098-018-2615-2

## FINDINGS

A gastroenterology (GI) consultation was requested. The GI team performed an upper GI endoscopy which showed a food bolus lodged in the piriform sinus in the posterior oropharynx. The upper esophageal sphincter could not be intubated, and the scope was removed due to risk of aspiration. The FB was not removed by the GI team. Otolaryngology (ENT) consultation was then requested. The patient stated he felt the FB had "moved after the [GI] scope procedure". The patient still had no respiratory distress. ENT flexible fiberoptic exam showed a large bolus sitting in the supraglottic larynx that was not fixed but partially occlusive as the patient was able to breathe around the FB (Figure 1).

Later in the ED, the patient developed increased work of breathing, garbled voice, and drooling, while vitals remained stable. Due to advanced AS, the patient's neck mobility was extremely limited in vertical and lateral directions. Removal of the FB in a controlled operating room (OR) was determined to be the best course. Anesthesiology was called. In preparation for a possible emergency tracheotomy, 10 mL of lidocaine with a dilution of 1:100000 epinephrine was injected into the neck for potential tracheotomy.

## INTERVENTION

The patient was then taken to the OR for video direct laryngoscopy (with a Glidescope) and removal of FB with possible tracheostomy. The patient was unable to move his neck away from the neutral position due to advanced AS. As such, the airway was unable to be secured via intubation and instrumentation was limited for laryngoscopy.

While moving the patient to the OR table, the patient was placed prone with his head off the table and firm, controlled back blows were administered. The FB was dislodged and fell to the floor. The patient's breathing improved, and repeat endoscopic exam with a flexible bronchoscope showed no FB in the larynx. The scope was advanced into the subglottis, trachea, and carina. No FB or FB remnants were identified. The patient was then admitted for observation and was stable overnight. A chest x-ray taken the next day showed no acute cardiopulmonary changes and the patient was discharged.

## DISCUSSION

Here, we present a patient with a partial laryngeal FB obstruction who was unable to be intubated due to severely limited cervical mobility secondary to AS, whose FB was successfully removed by changing position and administering controlled blows to the back. By placing the patient prone with his head off the table, we utilized gravity to help safely flex the patient's neck, ultimately creating a downward vector for the FB to follow when leaving the larynx. Another consideration would be to place the patient in the Trendelenburg position while prone to achieve a more downwardly oriented vector.

It is worth noting that administering controlled blows to the back will not be efficacious in the setting of a fixed FB. We also support the consideration of alternate means of ventilation if the initial plan to remove the FB proves unsuccessful. In this case, the patient was consented for a tracheotomy and the team was prepared to do an emergency tracheotomy if need.

## IMAGES



Figure 1: flexible fiberoptic exam showing a large bolus sitting in the supraglottic larynx that was not fixed but partially occlusive

## CONCLUSION

We present this case as an example of a non-invasive way to remove a FB in a patient with limited neck mobility who is unable to undergo laryngoscopy.