

# Lesson Learnt: Unpredicted Difficult Airway Should Have Been A Predicted One!

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## Abstract

We are reporting a case of a 70 year old lady who presented with worsening of dysphagia after having an esophagoscopy a week before as a part of investigations for sub-acute onset of difficulty in swallowing of three to six months duration. She did not have any other past medical history, was not on any regular medications and had no family history of cancer. On examining she had normal heart rate and blood pressure. She was found to have diffuse surgical emphysema extending from the nipples upwards to the neck area. She did not have any difficulty to speak, stridor or shortness of breath. She was diagnosed by computed tomography (CT) to have an iatrogenic perforation of the thoracic segment of esophagus secondary to flexible esophagoscopy. The CT also showed a small collection of fluid around the perforation, but no tumor or any other pathology.

Mrs. K was scheduled to have mediastinal drainage and feeding jejunostomy as an emergency procedure, while being further investigated for her initial symptoms of dysphagia. She was assessed for anesthesia. There was history of general anesthesia with grade 1 laryngoscopy 18 months ago for laparoscopic cholecystectomy. On examining the airway, she had a Mallampati class 1 on opening the mouth, thyromental distance was 7 cms, there was good neck movement and no problem with her teeth. All the routine blood tests were normal except a slightly raised white cell count and the ECG was normal. She did not have any apparent risk of difficult airway, and hence a straight forward rapid sequence induction was planned (RSI). On RSI, the laryngoscopy was grade 3 b (unable to lift the epiglottis) even with a McCoy laryngoscope and it was also noted that the epiglottis was red and swollen. But, she was easy to ventilate with the mask. We decided to use the fiberoptic bronchoscope (FOB) which was difficult to negotiate beyond epiglottis due to swollen and firm epiglottis. Our next plan was to insert the Laryngeal mask

airway (LMA), and intubate trachea with FOB. LMA was inserted and ventilation through it was easy as well. On introducing the FOB we were happy to note that the epiglottis was lifted, but the view showed severe inflammatory changes of the supraglottic structures including the laryngeal inlet (Fig.1). The trachea was successfully intubated with the 5.5mm endotracheal tube over the FOB after 2 failed tracheal intubation attempts with 6.5mm and 6.0mm endotracheal tubes over the FOB, and the planned procedures were completed. Mrs. K was transferred to intensive care and reviewed by the ENT surgeons who concluded that the mediastinitis secondary to esophageal perforation and tracking of the inflammation was the reason for the swelling and the narrow laryngeal inlet.

## Figure 1

Figure 1: View of the laryngeal inlet from the fiberoptic bronchoscope through the LMA



The inflammation did not settle after 5 days and no leak around the endotracheal tube was noted. , and hence tracheotomy was done to wean the patient. Unfortunately,

Mrs. K died after 2 weeks with septicemia and multi organ failure.

## **DISCUSSION**

Esophageal perforation is the most common cause of mediastinitis (1) and it has an overall mortality rate of 15-29% (2). Mediastinitis can cause ascending or descending spread of inflammation which may result in inflammatory changes in the airway. This case had all the evidence of inflammatory changes in the supraglottic, glottic and infraglottic area as assessed by the FOB during intubation. This must have resulted in a higher laryngoscopy grade in spite of having grade 1 laryngoscopy 18 months ago. Although Mrs. K did not have any symptoms of airway compromise, she had approximately 4-5mm glottic opening (Fig) and a very narrow trachea on FOB. On hindsight, the surgical emphysema of one week duration should have raised the suspicion of a potentially difficult airway. Cases of significant esophageal perforations will require general anesthesia and surgical intervention, and it is important not to forget the pathophysiology which affects the airway.

## **LESSONS LEARNT**

- Esophageal perforation is one of the commonest causes of mediastinitis.
- Mediastinitis can lead to ascending or descending spread of inflammation and hence involvement of the airway.
- Airway assessment for these types of cases should lead to preparation for a predicted difficult airway management.
- Any soft tissue air in the neck should lead to suspicion of a potentially difficult airway.
- Lack of symptoms or signs does not necessarily rule out a difficult airway.

## **References**

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