



Careful What You Swallow: A Medically Challenging Case of Dental Aspiration in Maxillofacial Trauma



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Figures

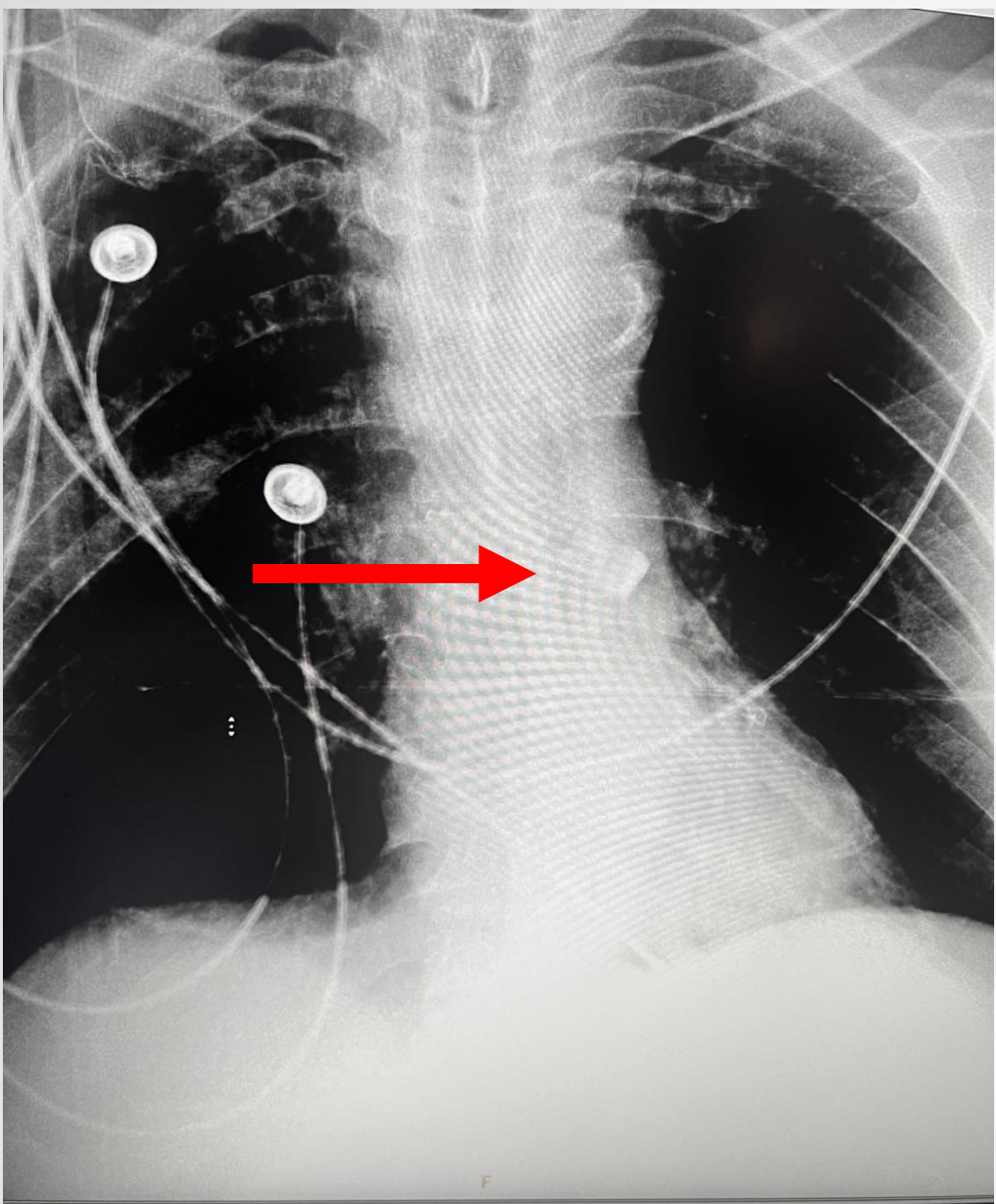


Fig 1. Molar lodged in left bronchus



Fig 2. Retrieved molar in operating room

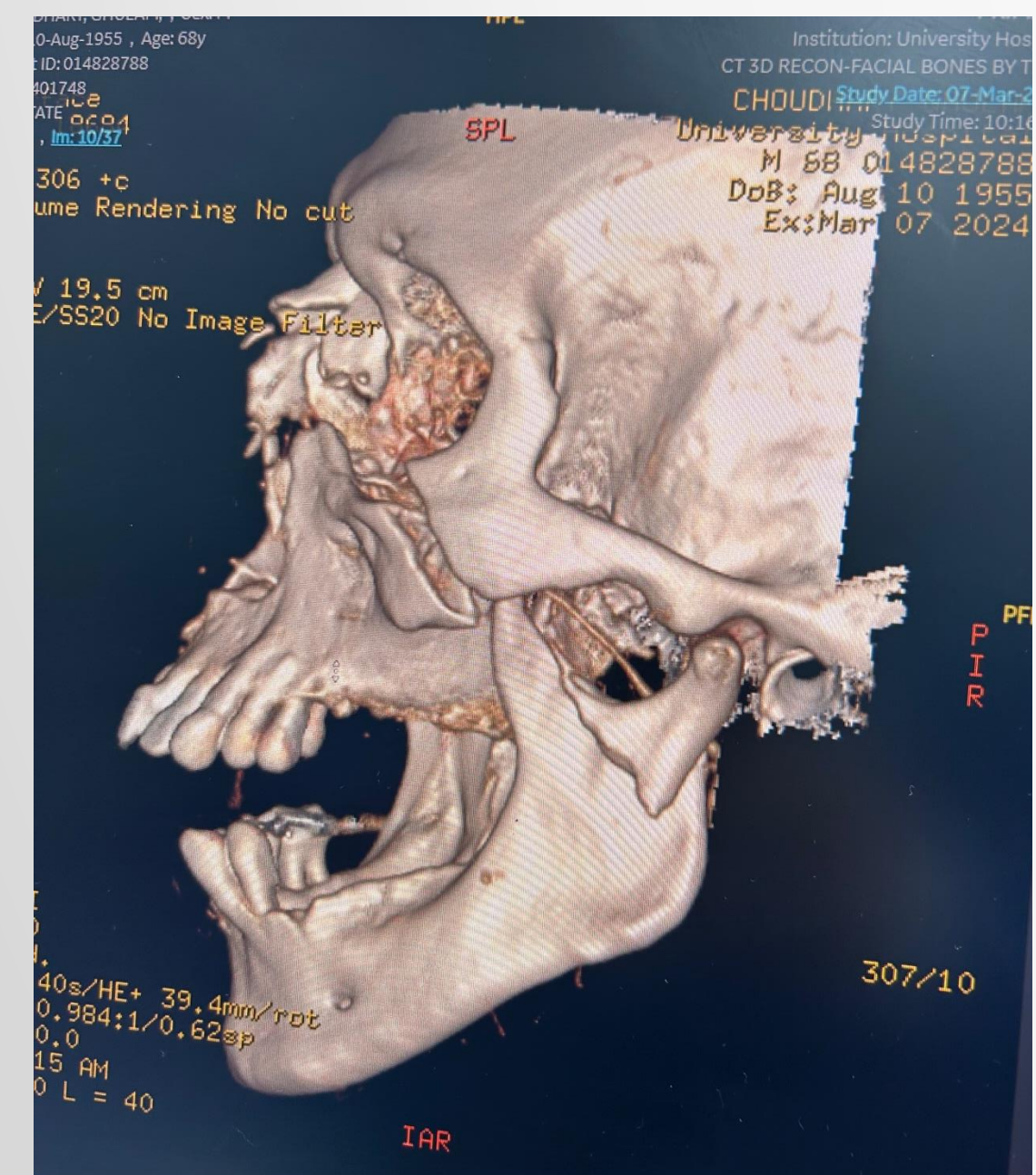


Fig 3. Spatial Mapping of maxillofacial trauma and damage to left molars

Introduction

Maxillofacial trauma presents a high risk for tracheobronchial foreign body aspiration, especially of dental fragments, which can lead to significant respiratory complications. This poster highlights a complex case managed by an interdisciplinary team involving anesthesia, trauma surgery, and otolaryngology. The team was faced with the challenge of extracting an aspirated molar from a 68-year-old patient with severe facial injuries. Despite multiple retrieval attempts through flexible and rigid bronchoscopy, the tooth's size and location complicated extraction, ultimately necessitating a tracheotomy for safe removal. This case underscores the importance of rapid diagnosis, meticulous planning, and collaboration among medical specialties to manage such airway obstructions effectively.

Case Description

A 68-year-old man presented after assault with severe maxillofacial trauma. He was hypoxemic on presentation and was intubated out of concern for aspiration. Subsequent radiographic imaging displayed a molar tooth in the left main stem bronchus.

In the OR, flexible bronchoscopy was performed through the endotracheal tube (ETT). The tooth was grasped and retracted to the level of the ETT but was too large to be extracted into the ETT.

Plans were made to extubate the patient with bronchoscope and tooth in toto. Upon first attempt, the tooth fell back into the bronchus after extubation. The patient was reintubated, and the procedure repeated, with similar outcome. Otolaryngology attempted with a rigid bronchoscopy but could not advance the tooth past the vocal cords.

Finally, a tracheotomy was performed. The tooth was delivered to the stoma with bronchoscopy and successfully extracted from the airway.

Discussion

Tracheobronchial aspiration is a significant concern of maxillofacial traumas. Teeth are a leading cause of aspirates in these situations. If dental aspiration is suspected, confirmation and retrieval become important next steps. Early radiographic imaging, including chest x-ray and computerized tomography, aid in identification and location of aspirates. Once discovered, removal of teeth from the bronchi is technically challenging. Extracting the tooth is difficult as the diameter of the bronchi limits the opening of bronchoscopic looped graspers. Careful maneuvers can help gather the tooth. In ideal scenarios, the tooth can be drawn into the ETT and carefully removed with extubation. Care too must be taken to protect the vocal cords upon retrieval. In more challenging scenarios, other means of extraction must be considered, including cryoprobes. Ultimately, a tracheostomy is a near definite way to ensure retrieval.

Precautions against aspiration in the period after maxillofacial trauma are imperative as well. During these cases, the care team must check the oral cavity for evidence of missing or cracked teeth. Similarly, emergent intubations face a similar challenge. Collaboration between trauma surgeons, anesthesiologists, pulmonologists and otolaryngologists is essential for successful resolution of these complex airway obstructions.

References

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