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CASE REPORT

A Mouthful of Trouble: A Case of Acute Airway Obstruction in Amyloidosis

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ABSTRACT

Macroglossia is a rare but classical manifestation of systemic amyloidosis and may progress gradually over time. In advanced stages, it can precipitate sudden and life-threatening airway obstruction. Airway management in such patients is particularly challenging because of distorted anatomy and limited visualization of oropharyngea tructures.

We report the case of a 77-year-old female with biopsy-proven systemic amyloidosis who presented with acute respiratory distress secondary to massive tongue enlargement. Conventional airway assessment and orotracheal intubation were not feasible due to complete obstruction of the oral cavity by the swollen tongue. Fibreoptic-guided nasal intubation was successfully performed, securing the airway and preventing further deterioration.

This case highlights the importance of early recognition of airway compromise in patients with amyloidosis and underscores the critical role of fibreoptic techniques in managing anticipated difficult airways. Emergency physicians should maintain a high index of suspicion and prepare advanced airway strategies when encountering patients with progressive macroglossia.

KEYWORDS

• Amyloidosis • Macroglossia • Airway obstruction • Fibreoptic intubation • Difficult airway

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INTRODUCTION

Systemic amyloidosis is characterized by extracellular deposition of misfolded amyloid fibrils in multiple organs. Involvement of the tongue resulting in macroglossia is a well-recognized but uncommon manifestation. While macroglossia usually develops gradually, severe enlargement can compromise speech, swallowing, and, in rare cases, airway patency.

Acute airway obstruction in amyloidosis is uncommon but potentially fatal. Anatomical distortion often renders standard laryngoscopy and oral intubation difficult or impossible. Early recognition and timely planning for advanced airway management are therefore essential. We present a case of acute airway compromise in a patient with systemic amyloidosis successfully managed with fibreoptic nasal intubation.

Case Presentation:

A 77-year-old female with a known history of biopsy-proven systemic amyloidosis and gradually progressive macroglossia presented to the Emergency Department with acute-onset respiratory distress. On arrival, her tongue was massively enlarged and protruding outside the oral cavity, interfering with phonation and significantly compromising airway patency. She rapidly developed oxygen desaturation and altered sensorium.

Oropharyngeal examination was not possible due to complete visual obstruction by the oedematous tongue. Oxygen was initiated via a non-rebreathing mask while preparations were made for definitive airway management. Anticipating a difficult airway, the emergency airway team opted for fibreoptic-guided nasal intubation.

A 6.5-mm endotracheal tube was successfully passed through the nasal route under fibreoptic visualization. The patient was stabilized on mechanical ventilation and transferred to the intensive care unit for further management.

With systemic therapy, the tongue swelling gradually regressed, and the patient was subsequently weaned off ventilatory support.

DISCUSSION

Macroglossia in amyloidosis results from amyloid deposition within muscular and connective tissue, leading to progressive enlargement and rigidity of the tongue. Although uncommon, airway emergencies may occur when compensatory mechanisms fail or when edema further worsens existing obstruction.

In such situations, conventional orotracheal intubation is frequently impossible due to poor visualization and restricted mouth opening. Fibreoptic intubation remains the gold standard technique in anticipated difficult airways, allowing controlled visualization of airway structures and minimizing trauma.

Emergency physicians must recognize the high-risk nature of amyloid-related macroglossia and prepare advanced airway equipment early. Delayed or repeated failed attempts at conventional intubation may precipitate complete airway loss, hypoxia, and cardiac arrest.

This case reinforces the need for structured difficult airway algorithms and multidisciplinary coordination when managing complex airway scenarios in the emergency setting.

CONCLUSION

Acute airway obstruction secondary to macroglossia in systemic amyloidosis is rare but life-threatening. Early identification and prompt airway control are crucial to prevent fatal outcomes. Fibreoptic nasal intubation should be considered the preferred method for securing the airway in patients with significant oropharyngeal distortion.

Emergency clinicians should maintain a high level of vigilance when treating patients with amyloidosis and progressive tongue enlargement and be prepared to implement advanced airway strategies without delay.

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