

CASE REPORT

Inadvertent Uvula Injury During Anaesthesia: A Case Report

Shahmini Ganesh¹, Sarah Aliah Ilham²¹ Department of Anaesthesiology and Intensive Care, Faculty of Medicine and Health Sciences, University Putra Malaysia, Jalan University 1, 43400 Serdang, Selangor, Malaysia² Department of Anaesthesiology and Intensive Care, Hospital Sultan Abdul Aziz Shah, Persiaran Mardi-UPM, 43400 Serdang, Selangor, Malaysia

ABSTRACT

Postoperative sore throat is a frequent complication following general anaesthesia. However, postoperative sore throat that is related to uvular injury is uncommon. Uvular necrosis occurs as a result of iatrogenic uvular injury and only becomes apparent after the patient is extubated and presented with abnormal sensation, dysphagia, or sore throat. Uvular necrosis is rare, and it is possibly an under-reported complication. Although the management of uvular injury is usually conservative, the complication of uvular injury resulting in pharyngeal dryness and discomfort may be distressing to the patient. In this article, we present a case of an inadvertent uvula injury following general anaesthesia and endotracheal intubation who subsequently made a full recovery. We would like to highlight on careful assessment of risk factor as well as airway and implement preventive measures to prevent uvula injury during anaesthesia.

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Corresponding Author:

Shahmini Ganesh, MMED

Email: shahmini@upm.edu.my

Tel: +60164125312

INTRODUCTION

Uvula is a small, fleshy projection hanging down from the soft palate at the back of the throat. It consists of a combination of mucous membrane, connective tissue and a layer muscle known as the musculus uvulae. It also contains glandular tissue that contributes to saliva production. Uvula play a role in various functions, including speech and articulation, swallowing, saliva production as well as moistening and lubricating the food during the initial stages of digestion. Inadvertent uvular injury during anaesthesia is rare and the incidence of uvula necrosis is reported as 0.03%.¹ Postoperative sore throat is the most common complaint after airway instrumentation during general anaesthesia (GA) and any possible uvular injury is often missed. Uvular necrosis that may develop following uvular injury manifests as a triad of symptoms including sore throat, foreign body sensation and halitosis.² These symptoms may occur as soon as one hour postoperatively.³ In this case report, we present a case of inadvertent uvular injury, its development, and strategies to reduce the likelihood of such injuries.

CASE REPORT

A 46-year-old gentleman with a recent history of percutaneous coronary intervention 3 months ago scheduled for right above knee amputation for necrotising fasciitis. Surgery was done under general anaesthesia in view the patient is still on dual antiplatelet therapy. The patient's body mass index was 38 kg/m.² Apart from obesity, other airway assessments did not show features of difficult airway. His airway assessment revealed good mouth opening and neck extension and Mallampati Score of II. Induction of anaesthesia was done with careful titration of anaesthetic drugs using intravenous (IV) fentanyl 200mcg, co-induction with IV midazolam 3mg and IV propofol 100mg and followed by IV Rocuronium 60mg. Following induction of anaesthesia, three-year experienced anaesthesia medical officer attempted intubation using CMAC® video laryngoscope (Karl Storz, Tuttlingen, Germany) blade size 4 and bougie. The view obtained with the video laryngoscope was Cormack Lehane Grade 2b. A size 8.0mm endotracheal tube (ETT) was successfully inserted on the first attempt using bougie. Nasogastric tube was inserted as well. Patient remained hemodynamically stable throughout the process of intubation and surgery. There were no episodes of desaturation. He was then extubated at post-anaesthesia care unit (PACU) once he regained consciousness. On postextubation day 1, the patient

complained of abnormal sensation, pain, and dryness over the throat. Direct visualization of the throat showed enlarged erythematous uvula (Fig. 1). Referral to otorhinolaryngologists was made and the patient was diagnosed as postoperative uvular necrosis and was treated conservatively. He was started on IV dexamethasone 8mg eight hourly for one day, antiseptic gargle, and analgesia. The patient was reviewed daily, and on postoperative day 7, auto-amputation of necrotic part of uvula occurred (Fig. 2-4). He had complete resolution of his symptoms following that.



Fig 1: Postoperative Day 1: Enlarged and oedematous uvula



Fig 2: Postoperative Day 3: Elongated uvula



Fig 3: Postoperative Day 5: White coloured demarcation indicates uvular necrosis.



Fig 4: Postoperative Day 7: Shortened uvula following auto-amputation.

DISCUSSION

Anaesthesia related uvula injury is uncommon but can lead to serious discomfort, poor oral intake and prolonged hospital stay. The incidence of uvular injury under anaesthesia is one of the rarest postoperative complications.^{1,4} Although the incidence is low, clinicians should be suspicious if a patient has persistent sore throat for more than 48 hours or other symptoms like difficulty in swallowing, odynophagia, abnormal sensation at the throat or choking episodes.²

Pamnani et al reported from his 4years retrospective review, uvular injury more common in male patients.⁴ This can be explained by the structural differences that present in men's upper airway. Men have more soft tissues, predominantly muscle in the neck. Under anaesthesia, these soft tissues are flaccid and more prone to direct mechanical injury.⁵ Uvula is a highly vascularised structure. Compression or impingement of this structure for a prolonged period can cause uvular ischaemia and epithelial damage.² During the intubation process, there is a risk of trauma to the uvula and surrounding structures. Uvular injury is more common with ETT compared to laryngeal mask airway (LMA).^{4,5} Patient undergoing surgery in supine position has increased risk of trauma because uvula more prone to be compression in this position.¹ Other factors that linked to this condition include duration of surgery, differences in skills or technique of airway handling or instrumentation. Moreover, prior upper respiratory tract infections, recreational substance consumption, and cigarette smoking are associated with increased risk.¹ However, there are no studies that have established a causal relationship between these factors and uvular injury.³

Recently, a grading system was developed to describe uvular injury. The condition of our patient falls under

Grade IV, indicating the presence of uvular auto-amputation which is characterised by a shortened uvula with an irregular border.¹ Risk factor for this patient include male gender, surgery in the supine position, intubation with an ETT, potential trauma during airway management and blind suctioning.

No significant adverse outcomes or prolonged morbidity were reported so far. Most instances of uvular injury were managed conservatively with simple analgesia, saline gargles, and antihistamine.^{1,3} In most of the cases, the condition resolves within a span of less than two weeks without any intervention.^{1,3} In more complex scenarios, steroids can be used to mitigate the inflammatory response and antibiotics can be given to forestall potential secondary infection.^{1,3} Surgical excisions rarely required.²

Preventing inadvertent uvula injury during anaesthesia involves careful attention to various factors perioperatively. Comprehensive assessment of the patient's airway, including the size of uvula, should be done before administering GA.¹ Should ensure proper positioning of the patient's head and neck during anaesthesia to avoid extreme positions that could compress it. Use of appropriately sized airway equipment and gentle handling of airway can minimize the risk of trauma. Following intubation, ETT should be anchored to either side of the midline.² Low-pressure suction under direct visualisation within the oral cavity is recommended.² Patients experiencing postoperative sore throat should be advised to perform saline gargles early to help mitigate further damage.^{1,3}

CONCLUSION

Inadvertent uvula injury is an uncommon complication that may occur during GA. Persistent postoperative sore throat or presence of other symptoms should prompt clinician to evaluate the patient. Most cases can be treated conservatively and usually have full recovery within two weeks. It is important to note that while rare, complications during anaesthesia can occur, and

healthcare providers should undergo extensive training to prevent and manage such situations.

By implementing preventive measures and maintaining a vigilant approach to patient care, healthcare providers can help reduce risk of inadvertent uvula injury during anaesthesia.

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