

Self-inflicted traumatic macroglossia

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Abstract

Macroglossia is a potentially life-threatening problem. The multiple aetiologies responsible for this condition include cysts, tumours, amyloidosis, angioedema, and infections. Although injuries to the oral cavity are common, self-inflicted traumatic macroglossia is not common. We report a case of a comatose patient with limb contractures and severe trismus who developed entrapment of the tongue with progressive macroglossia and near auto-amputation of the tongue. The importance of early recognition and treatment of tongue entrapment in comatose patients is emphasised since this is a potentially reversible condition.

Key words: Macroglossia; Airway obstruction; Trismus

Introduction

Macroglossia is a serious condition which can result in tongue necrosis, airway obstruction, and death. It can be caused by a variety of disorders, however, self-inflicted macroglossia is rare. We report a case of progressive tongue entrapment and macroglossia in a comatose patient with limb contractures and trismus. Since comatose patients can not verbalise their symptoms, it is incumbent upon the physician to recognise this potentially reversible condition and treat it early.

Case report

A 20-year-old male was seen with the chief complaint of an enlarged tongue. The patient had suffered a near-drowning accident with subsequent anoxic brain damage requiring tracheotomy four months prior to presentation. The patient was placed in a rehabilitation facility where he developed progressive macroglossia of unknown duration. He was transferred to our institution with a diagnosis of sepsis.

The otolaryngology service was consulted due to the extreme macroglossia. Physical examination revealed a comatose male with limb contractures. The distal tongue was large and swollen with superficial sloughing (Figure 1). Further examination of the oral cavity revealed that the patient had severe trismus with the lower teeth causing a constriction just proximal to the swelling. Although the tongue appeared viable, the lower teeth caused severe maceration and near-autoamputation. The proximal tongue appeared normal. Only a small bite block could be placed between the upper and lower teeth to relieve the constriction. This therapy was combined with hand massage and wet dressings to the tongue which resulted in a significant decrease in tongue size. Unfortunately, the patient died soon thereafter due to medical causes.

Discussion

Macroglossia is defined as a resting tongue that protrudes beyond the teeth or alveolar ridge (Riter *et al.*, 1958). Macroglossia may be caused by a variety of

disorders including amyloidosis, hypothyroidism, lymphangioma, angioedema, Beckwith-Wiedemann syndrome, and trauma. Traumatic macroglossia may be caused by surgery, facial trauma, or difficult intubation.

Our case represents chronic traumatic macroglossia secondary to tongue constriction and entrapment. The severe trismus caused the lower teeth to push the tongue against the upper teeth causing strangulation and preventing venous and lymphatic drainage with resultant macroglossia. Our case underscores the fact that comatose patients may develop severe spasms and trismus resulting in entrapment of the tongue. Oedema, discoloration, dryness, ulceration, and exposure of the tongue are signs of tongue entrapment. Since comatose patients can not verbalise any symptoms and signs, it is incumbent upon the physician and nursing staff to recognise this condition. Unless this is diagnosed and treated early, the entrapment could initiate a vicious cycle of tongue constriction, enlargement, and eventual necrosis.



FIG. 1

Severe macroglossia secondary to penetrating teeth injury and trismus. Note superficial sloughing of the tongue.

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Macroglossia can cause serious sequelae. Prolonged tongue exposure can cause ulceration and necrosis of the tongue (Dolan *et al.*, 1989). In patients with severe trismus, the teeth can be particularly damaging to the tongue. Teeth can cause a constant penetrating injury, which if not treated, may result in tongue auto-amputation. The most serious complication of macroglossia is airway obstruction. In these patients, oral intubation is difficult and a tracheostomy may be required for airway protection.

The management of macroglossia requires a thorough knowledge of its aetiology and extent of airway compromise. Systemic disorders, tumours and traumatic causes must be ruled out. Conventional therapy may include corticosteroids and antibiotics. This regimen may be efficacious in cases of post-intubation trauma, after intraoral surgery, facial trauma, and angioedema. Constant cardiac monitoring, pulse oximetry, and admission to the intensive care unit may be needed.

The combination of a bite block with or without teeth removal may decrease the pressure on the tongue. Although it may be difficult to place a large bite block in a patient with severe trismus, even a small bite block can be beneficial in decreasing the constriction and in reversing the process of progressive tongue enlargement. In cases of severe trismus, muscle paralysis may be needed prior to this procedure. Saah *et al.* (1993) reported a marked reduction of traumatic macroglossia after manual replacement of the tongue into the oral cavity. As a modification of this procedure, we performed daily tongue massage to maintain good blood flow. Smeets and Engelberts (1995) reported on the efficacy of leeches in the treatment of traumatic macroglossia. In cases of tumour such as lymphangioma and certain congenital disorders, conservative partial glossectomy may be required to allow the tongue to fit back into the oral cavity (Vogel *et al.*, 1986).

Clinicians should have a systematic approach to the comatose patient with macroglossia and recognise it early. Delay in the evaluation and treatment of macroglossia can cause tongue strangulation and may be life-threatening.

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