

Successful perioperative airway management in a patient with angiomatous macroglossia for laser ablation under general anesthesia

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To the Editor:

Anesthetic management of patients with macroglossia remains challenging for anesthesiologists, despite the current availability of various devices for tracheal intubation [1, 2].

A 63-year-old man (weight, 53 kg; height, 173 cm) was scheduled to undergo laser ablation and biopsy for tongue hemangioma accompanied by massive macroglossia (Fig. 1). The patient had been aware of an enlarged tongue since childhood. This enlargement gradually progressed and had reached an extent where the tongue protruded from the oral cavity 6 months ago. He had also been suffering from eating and swallowing disorders for approximately 3 months. However, he could talk and sleep in a supine position. There were no symptoms of upper airway obstruction, including dyspnea and sleep apnea. Endoscopic examination revealed the absence of abnormal anatomical changes in the upper respiratory tract, including the nasal cavity, pharynx, and larynx, as well as the absence of abnormal pathological changes in the glottis. His pharyngeal reflex was well preserved.

On the day of surgery, he was admitted to our hospital in an ambulatory condition. In the surgery unit, he was placed in a supine position that did not induce dyspnea. Oxygen saturation (SpO₂) was maintained as 100 % and fentanyl was intravenously administered, and visualization of the glottis using a Macintosh laryngoscope under spontaneous respiration was attempted. The glottis was identified by direct laryngoscopy; therefore, the trachea was intubated with an endotracheal tube via the right nostril (ID 6.5, Northpolar Portex). Following successful intubation, general anesthesia was induced by the administration of propofol, remifentanyl, and rocuronium and maintained. After laser ablation, administration of propofol and remifentanyl was terminated and flumazenil was introduced. After full emergence, his trachea was extubated under airway observation using broncoscopic guidance, with an otolaryngologist on standby in case emergent tracheostomy was required. No swelling of the base of the tongue or glottis was observed.

After successful extubation, he did not complain of dyspnea in a sitting position, and SpO₂ was maintained at approximately 95 % under room air in the postanesthesia care unit. After 85 min, he moved, on foot, to the step-down recovery area in the unit and stayed there for 90 min. Subsequently, he moved into the general ward after it was confirmed that he could safely drink clear water.

Macroglossia is predominantly observed in pediatric patients and is not very frequent in adult patients. In patients with Beckwith–Wiedemann syndrome, macroglossia arises from hyperplasia of the tongue tissues and hypertrophy of the tongue musculature [3]. In adults, hypothyroidism and hyperpituitarism may cause macroglossia from hyperplasia of the tongue tissues. In addition, infiltration of the tongue by abnormal tissues, including

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Fig. 1 A large hemangioma of the tongue was visualized after tracheal intubation. The enlarged tongue is protruding from the oral cavity. The tumor covers the orifice of the right nostril

angiomatic, lymphatic, and venous malformations and amyloidosis, is a major cause of macroglossia [4, 5].

In conclusion, successful airway management was facilitated in the presence of massive macroglossia in our patient. This case report emphasizes the importance of elaborate preanesthetic anatomical and functional airway evaluation in patients with macroglossia requiring surgery under general anesthesia.

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