Orotracheal intubation facilitated with a GlideScope GVL[®] video laryngoscope in a patient with a large oronasopharyngeal rhinosporidiosis

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To the Editor,

Rhinosporidiosis is a chronic granulomatous disease caused by an aquatic protistan parasite, *rhinosporidium seeberi*. The disease presents as multiple polypoidal granular lesions involving the mucosa of nasal cavity, nasopharynx, and oropharynx.¹ These lesions are friable, bleed profusely, and have a high tendency to recur.² Due to systemic involvement of the disease, including bone and skin, patients require multiple surgeries. There is considerable risk of autoinoculation of the spores during airway management,³ hence all cases require atraumatic tracheal intubation. We report herein airway management in a case of a large pedunculated nasopharyngeal mass extending into the laryngopharynx and completely covering the laryngeal inlet. The patient gave written informed consent for publication of this case report.

A 32-yr-old immunocompromised Hepatitis B Surface Antigen (HBsAg) seropositive male patient from northern India presented with nasal stuffiness and a one-year history of granulomatous growth on his left ear. The surgical removal of an aural lesion histologically confirmed rhinosporidiosis. One year earlier, the patient underwent left below-knee amputation under subarachnoid block for rhinosporidiosis-related osteomyelitis.

During all examinations and interventions, universal safety precautions were followed. On examination, the patient was conscious, cooperative, hemodynamically stable, and not in respiratory distress. His cell blood count, electrocardiogram, and chest radiograph were normal, and serology for HBsAg was positive with the ELISA test.

On inspection of his airway, a large polypoidal mass was observed anteriorly in the left nostril, and an irregular polypoidal nasopharyngeal mass, observed originating from the uvula, became prominent on protrusion of the tongue (Fig. 1) and moved with swallowing. The airway was judged as a Mallampati 4 airway with an Arne's score of 13. The patient's vocal cords could not be visualized on indirect laryngoscopy. An oral 70° rigid endoscope (Karl Storz Hopkins, Germany) revealed a 5 x 5 cm pedunculated polypoidal nasopharyngeal mass originating from the uvula, extending into the laryngopharynx, and completely covering the laryngeal inlet (Fig. 2). Visualization of the vocal cords showed normal movement with no lesions.

The anesthetic plan for securing the airway included awake oro-tracheal intubation using a GlideScope GVL[®] video laryngoscope (Saturn Biomedical Systems, Verathon, Burnaby, BC, Canada) and fiberoptic intubation (FI-10P2, Pentax medical, Montvale, NJ, USA) if required. We also planned for the possibility of an emergency tracheostomy. These procedures were explained to the patient and informed consent was obtained. Overnight fasting with aspiration prophylaxis was planned, and glycopyrrolate 0.2 mg *iv* was administered 45 min before surgery. On arrival to the operating room, routine monitoring was commenced using an Aestiva[®] S/5 anesthesia delivery system (Datex-Ohmeda Inc., Instrumentarium Corp., Aestiva[®]/5 Compact, Finland), and no transtracheal blocks were given to prevent any foci for autoinoculation. Topical anesthesia of the airway was provided with inhaled 4% nebulized lidocaine for 20 min. Lidocaine jelly (2%) was applied gently on the ventral surface of the patient's tongue from the tip to the base of the tongue as far as back as the vallecula. The patient was placed in a 15° head-down position to facilitate moving the uvular mass into the

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Fig. 1 Oronasopharyngeal rhinosporidiosis and non-visualization of structures beyond the hard palate

Fig. 2 Large pedunculated irregular polypoidal mass completely covers the laryngeal inlet

nasopharynx and provide space for the insertion of an adult size-4 GlideScope GVL[®] video laryngoscope. Lidocaine spray (10%) was employed as the GlideScope GVL[®] was advanced into the vallecula as the vocal cords were visualized. The patient's trachea was intubated with an 8.0-mm internal diameter endotracheal tube using a Glide Rite[®] Rigid Stylet (Saturn Biomedical Systems, Verathon, Burnaby, BC, Canada) during maximum inspiration. Anesthesia was induced with fentanyl, propofol, and

atracurium after confirmation of the correct placement of the tracheal tube by capnography, and the patient's lungs were ventilated with 33% oxygen and nitrous oxide with sevoflurane. Surgical excision of the left nasopharyngeal and uvular polypoidal mass was then commenced. Residual neuromuscular block was antagonized at the completion of the procedure, and the patient's trachea was extubated when he was fully awake.

Rhinosporidiosis is a chronic granulomatous condition seen frequently in India and Sri Lanka. The mode of transmission seems to be inoculation of injured epithelia by a pathogen derived from the natural habitat.² Rhinosporidiosis occurs commonly in males, and in this patient, it was possibly associated with bathing in stagnant water and with an immunocompromised status.^{2,4} Multiple pedunculated lesions in the mucosa bleed profusely leading to autoinoculation of the rhinosporidial spores and recurrence.³ Spontaneous regression rarely occurs in patients not treated regularly with Dapsone. Surgical excision with diathermy under general anesthesia is the treatment of choice.⁵

The priority in this case was to secure the patient's airway with an atraumatic technique while minimizing exposure to the health care providers. Awake tracheal intubation was preferred since sedation could lead to the collapse of the upper airway. The patient was comfortable in the head-down position, and the uvular mass moved into the nasopharyngeal space by way of gravity providing space to insert the GlideScope GVL[®] in an atraumatic manner. Avoiding airway trauma decreases the chances for autoinoculation and satellite lesions emerging later in life. Combined use of a flexible fiberoptic bronchoscope with direct laryngoscopy and a flexible fiberoptic bronchoscope with a 70° rigid endoscope for endotracheal intubation has been previously described.^{5,6} Despite the outcome of this case, acute airway loss is a real risk, and provisions for immediate emergency tracheostomy are always advisable.

In conclusion, awake orotracheal intubation in a patient with a large oronasopharyngeal rhinosporidiosis was facilitated with the use of a GlideScope GVL[®] video laryngoscope preventing autoinoculation and recurrence of this disease.

Competing interests None declared.

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