

Reinkes oedema causing severe airway obstruction with relatively mild symptoms

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DESCRIPTION

A woman in her fifties presented for microlaryngoscopy and biopsy to investigate an eight month history of dysphonia and shortness of breath on exertion. Clinic-based nasendoscopy indicated a likely diagnosis of Reinkes oedema¹ but could not exclude carcinoma.

Pre-operative anaesthetic assessment noted the patient's history of progressive shortness of breath on exertion; however, she was not short of breath at rest. There was marked dysphonia, but no stridor. The patient was edentulous, Mallampati: IV, incisor-incisor distance: >3 cm and thyromental distance >6 cm. The patient was notably tender on palpation of the neck but had normal neck movement. The patient's medical history was also significant for T1DM, obesity (body mass index >40 kg/m²), and anxiety. Glycaemic control was poor with HbA1c: 68 mmol/mol and point of care capillary blood glucose on the morning of surgery: 16.9 mM.

Given the patient's relatively mild symptoms, likely benign pathology, and poorly controlled diabetes, the anaesthetic and surgical teams discussed the possibility of postponing the operation for 6–8 weeks to allow optimisation of glycaemic control. On balance, however, it was decided to proceed with the operation as planned as the patient had airway pathology, was under regular follow-up with the endocrinology team without improvement in glycaemic control, and she was particularly anxious about surgery and was likely to be extremely distressed by postponement.

A difficult airway was anticipated, and the difficult airway trolley and C-MAC video laryngoscope were available in the anaesthetic room. After preoxygenation and induction of anaesthesia, the ability to mask ventilate was confirmed before administering suxamethonium as a short-acting muscle relaxant. The first attempt at intubation was with direct laryngoscopy and revealed a Cormack Lehane Grade I view with severely oedematous vocal cords. There was a minimal opening between the posterior portions of the cords. A size five microlaryngoscopy tube was passed with resistance.

Microlaryngoscopy highlighted the degree of stenosis due to polypoid oedema (figure 1A). The surgery was undertaken via suspension microlaryngoscopy with standard cold steel instruments including forceps, suction and scissors. The size of the tumour mandated a piecemeal/stepwise excision. Removal of the oedematous tissue from the right vocal cord revealed further, previously

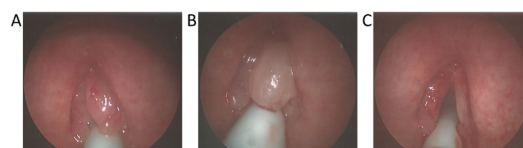


Figure 1 (A) Oedematous vocal cords after intubation. A size five microlaryngoscopy tube is seen in place between the posterior portions of the vocal cords. (B) Polyp on left vocal cord exposed after removal of oedema on the right vocal cord. (C) Vocal cords and microlaryngoscopy tube after completion of removal of oedematous tissue.

hidden, polypoid oedema on the left vocal cord (figure 1B). After completion of removal of oedematous tissue, the opening between the vocal cords was markedly improved (figure 1C). Careful assessment was undertaken at the end to ensure no residual tissue at the lateral and inferior aspects of the lesion but with maximal preservation of the true vocal cord.

The patient had some laryngospasm after extubation, which was treated with positive end expiratory pressure. She was comfortable in recovery and reported immediate improvement in her breathing.

The Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society² investigated the incidence of major complications of airway management during anaesthesia in the UK. Over 25% of the cases identified were associated with an obstructive lesion in the airway. Careful consideration of the strategy for airway management is required for any laryngotracheal surgery.³

In this case, a difficult airway was anticipated; however, the degree of stenosis encountered was still unexpected due to the absence of dyspnoea and stridor. The patient's mild presenting symptoms were falsely reassuring. This case highlights

Learning points

- ▶ Significant airway obstruction can be relatively asymptomatic, caution is required when approaching any airway pathology.
- ▶ Communication between members of the team is key. Postponing this operation was considered because of poor glycaemic control. Careful discussion balanced the risks and benefits of going ahead.



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the degree of narrowing of the airway that can be tolerated by patients with minimal distress, particularly with slowly evolving pathology, and the need for caution and careful preparation when approaching any airway pathology.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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