

Reinke's oedema of vocal cords- Anaesthetic considerations

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Reinke's oedema (RE) also known as polypoid corditis, laryngitis or chronic hypertrophic laryngitis is associated with chronic accumulation of fluid in the sub epithelial compartment of the vocal fold.^{1,2} It can cause airway problems in patients with undiagnosed RE, but can also cause difficult intubation in patients already diagnosed with RE due to diffuse swelling of vocal cords. We hereby report a case of 55 year old female with RE admitted for decortication of vocal folds and discuss the anaesthetic implications.

Key words: Reinke's oedema; airway; fiberoptic intubation

Case Report

A 61 year old female (78 kg, 160 cm), ASA I was posted for decortication of vocal cords. She had a history of hoarseness of voice and gastroesophageal reflux disease since 6 years. She had been a chronic hukka smoker for 30 years but stopped 5 years back. She was operated for left total knee replacement under subarachnoid block 3 years back. On examination, patient was conscious, oriented and obese. Her chest was clear but air entry was reduced bilaterally. Airway examination revealed a mouth opening of 3 cm (2 finger breadths), Mallampati class III score and short neck but normal movements. (Figure 1) Routine investigations were within normal limits. Indirect laryngoscopy revealed RO of both vocal cords.

Patient was kept fasting for 6 hours and informed written consent for anaesthesia and surgery was taken. She was prescribed alprazolam 0.25mg, ranitidine 150mg orally at bed time and two hours prior to surgery in the morning. She was also advised tablet deriphyllin R (theophyllin and etophyllin) 150mg at night and nebulisation with salbutamol and terbutaline in the morning. In operating room, standard monitors including electrocardiography, pulse-oximetry and non-invasive blood pressure were attached and an intravenous line with 18 G cannula was secured. General anaesthesia was planned and difficult airway cart was kept ready. After preoxygenation, induction was done with glycopyrrolate 0.2 mg, fentanyl 2µg/kg, and

propofol 2mg/kg intravenously. Succinylcholine 1.5mg/kg was administered after checking for ability to ventilate. Direct laryngoscopy with Macintosh blade did not visualize the vocal cords. A repeat laryngoscopy with McCoy blade showed diffuse oedema of vocal cords and the glottis chink could not be ascertained. Meanwhile patient's spontaneous efforts returned and she was awakened fully. At this time, we planned awake nasal fiberoptic intubation. The whole procedure was explained to her. She was nebulised with 4ml of 4% lidocaine and advised to do gargles with 5ml of 2% lidocaine viscous. Xylometazoline drops were put in right nostril. A 3.6mm fiberoptic bronchoscope with preloaded with a 5.0mm internal diameter microlaryngeal tube was passed through split nasopharyngeal airway in right nostril. At the level of glottis inlet 2ml of 2% lidocaine was instilled through working channel. After confirmation of fiberscope in mid trachea, a well lubricated MLT was advanced over the fiberscope into the trachea. (Figure 2) General anaesthesia was induced with propofol, fentanyl, atracurium and sevoflurane. Intravenous hydrocortisone 100mg and dexamethasone 4mg was given. After completion of surgery, patient was extubated when fully awake and she was shifted to the ward after 2 hours.

Discussion

RO is a swelling of Reinke's space, the subepithelial matrix of elastin, collagen, and other extracellular proteins that permits high-frequency mucosal vibration.^{1,2} It involves the



entire length of one or both vocal folds. It is strongly associated with smoking, gastroesophageal reflux and heavy voice use. It is not found in persons who have never smoked, thus may represent a specialized tissue reaction to thermal insult. Gastroesophageal reflux and heavy voice use may make the condition worse but do not cause it.³ RE also referred to as polypoid corditis, polypoid hyperplasia or polypoid degeneration in literature may be mistaken for vocal polyp. But both are separate disorders and do not share appearance, aetiology and potential for airway problems. Polyps do not become too large to cause airway problems but RE may cause airway problems.³ Airway management is of prime concern to all anaesthesia providers. RE can result in formation of acquired laryngeal web and thus difficult intubation.⁴ Patients with unsuspected RE can present with airway obstruction under anaesthesia.² In this case, we encountered a problem in visualizing the glottis with Macintosh as well as McCoy blade during direct laryngoscopy, so we awakened the patient and planned for awake fiberoptic intubation. This is a concern for anaesthesia provider as overlapping of oedematous tissue around the glottis opening impairs visualization of trachea. Left molar approach for laryngoscopy improves direct glottic view using Macintosh blade.⁵ This approach did not come to our mind at that time. Intubation using intubating laryngeal mask airway could have been the other option. We have fiberoptic bronchoscope at our institute, so, we preferred that. In today's world video laryngoscopes are upcoming airway adjuncts that are very useful devices during difficult airway scenario, but we do not have one at present.

Conclusion

This case report is intended to create awareness among anaesthetists about RE of vocal cords and airway problems it can cause. So, detailed history including any change in voice, history of chronic GERD and proper airway assessment is recommended in patients with Reinke's oedema for successful outcome.

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