CASE REPORT

# Awake Intubation for Excision of Vocal Cord Polyp in an Antenatal Patient: A Case Report

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## Abstract

The anesthetic management of patients presenting with laryngeal tumors and airway obstruction is difficult. We present the case of a 22-year-old female, 30 weeks of gestation, who underwent surgical removal of a vocal cord polyp under general anesthesia using awake intubation with airway blocks.

**Keywords:** Awake intubation, Pregnancy, Vocal cord polyp.

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A 22-year-old female patient, gravida 2, para 1, with 30 weeks amenorrhea, presented in the Ear Nose Throat Outpatient Department with fever for 8 days, respiratory distress increasing since 8 days, and dysphagia progressively increasing to solid foods since 6 months. She gave a history of gastroesophageal reflux disease in the last 8 months and progressively increasing hoarseness of voice over the last 2 years. On further probing, the patient revealed a history of vocal cord abuse following the demise of her firstborn child. A 70° oral endoscopy performed by an otolaryngologist revealed a boggy swelling with a pedunculated lesion arising from the posterior 2/3rd of the left vocal cord region. The polyp was drawn inside the subglottic area during inspiration, leading to obstruction of the airway (Fig. 1). A contrast-enhanced computed tomography neck confirmed the findings of a 9.3 by 9.8 mm left vocal cord papilloma. Despite the administration of intravenous (IV) ceftriaxone 1 g 6 hourly, there was no relief, and her respiratory distress worsened. Thus, the decision for microlaryngoscopic excision of the vocal cord polyp was taken by the otolaryngologist.

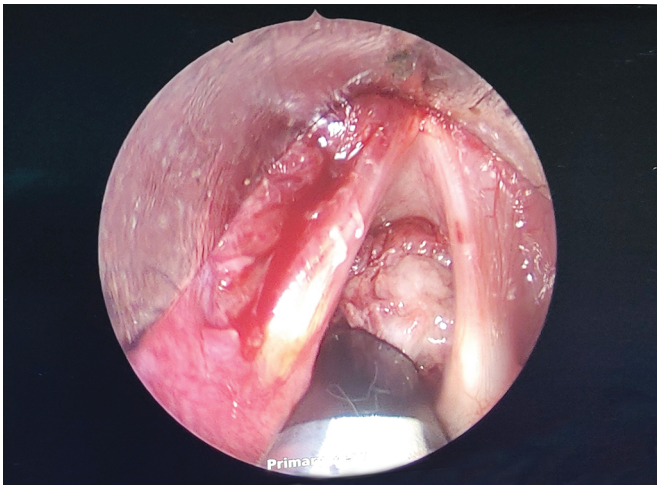

**Fig. 1:** Polyp obstructing airway

On preoperative examination, the patient was 60 kg and had a mallampati grading of 2 with adequate mouth opening and unrestricted neck movements. She had no previous medical or surgical history. Preoperative counseling for awake tracheal intubation was done, and valid, written, and informed consent was taken. After confirming a 12-hour Nil by Mouth period, preoperative nebulization with 2% lignocaine 8 mL was given, and the patient was premedicated with 40 mg IV pantoprazole and inj glycopyrrolate 0.2 mg. All ASA standard monitors were attached, and baseline parameters were noted. Dexmedetomidine infusion was

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started at 1 mcg/kg/minute for 10 minutes, followed by 0.5 mcg/kg/minute. A bilateral superior laryngeal nerve block was given with 2% lignocaine 1–1.5 mL, followed by a transtracheal block with 2 mL 2% lignocaine. Titrated dose of propofol was given, following which videolaryngoscopy was performed, and the patient's trachea was secured with five endotracheal tubes during expiration after confirming the correct placement of endotracheal tube inj atracurium was given, and anesthesia was maintained with sevoflurane, air, and oxygen. Continuous intraoperative fetal monitoring was done. The procedure was uneventful, and extubation was done once the patient was in awake condition (Fig. 2). The patient's postoperative recovery was uneventful.

**Fig. 2:** Vocal cord polyp

## Discussion

Management of the airway in a patient with a glottic lesion that causes dynamic airway occlusion (ball-valve effect) poses a great challenge to the anesthetist.[1] After general anesthesia, there may be a loss of airway tone, spontaneous ventilation is abolished, and positive pressure ventilation is given, which can lead to total airway obstruction. This can result in a disastrous condition of cannot ventilate-cannot intubate. Traditional airway rescue techniques like cricothyrotomy and laryngeal mask airways will be of limited use in this condition.[2]

Changes during pregnancy, both anatomical and physiological, are often associated with a difficult airway. During pregnancy, there is capillary engorgement and edema of the respiratory tract, making the mucosa friable and increasing the risk of bleeding. During the apnoeic periods, increased oxygen consumption accompanied by a reduction in functional residual capacity leads to rapid desaturation.[3]

Vocal fold lesions typically result from tissue injury due to irritants such as cigarette smoke or gastroesophageal reflux or due to excessive phonation.[4]

We aimed at providing safe anesthesia, while balancing airway compromise in the mother against potential preterm delivery of the baby. Difficult airway is often managed with awake or minimally sedated fiberoptic bronchoscopic intubation.[2] We opted for awake videolaryngoscopy as it offers the ability to visualize the glottis and movements of the endotracheal tube during intubation.[2] Dexmedetomidine causes minimal respiratory depression with retention of the ability to follow commands, including deep inspiration and expiration that promote the opening of the airway. We used a smaller size endotracheal tube due to reduced glottis opening.[2] We opted for awake videolaryngoscopy as it offers the ability to visualize the glottis and movements of the endotracheal tube during intubation.[2] Dexmedetomidine causes minimal respiratory depression with retention of the ability to follow commands, including deep inspiration and expiration that promote the opening of the airway. We used a smaller size endotracheal tube due to reduced glottis opening.

The use of awake videolaryngoscopic tracheal intubation in combination with airway blocks for airway management significantly reduced the risk during the management of an unusual glottic lesion.

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