*Olgu Sunumu (Case Report)*

# Dev Vokal Proçes Granülomu Olan Hastanın Anestezik Yönetimi

## *Anesthetic Management of a Patient with Giant Vocal Process Granuloma*

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### Özet

Vokal proçes granülomları genellikle posterior glottiste gözlenen benign lezyonlardır. Bu olguda, glotisi laringeal granülom ile neredeyse tıkanmış olan bir hastanın anestezi yönetimi deneyimimizi paylaşmak istedik.

**Anahtar Kelimeler:** Entübasyon, Vokal proçes granülomu, Anestezi yönetimi

### Abstract

Vocal process granulomas are benign lesions usually observed in the posterior glottis. In this paper we wanted to share our anesthestic management experience of a patient whose glottis was almost occluded by a laryngeal granulom.

**Key Words:** Intubation, Vocal process granuloma, Anesthesia management

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## INTRODUCTION

Vocal process granulomas are benign lesions usually located in the in the posterior glottis (1). Three major causes of vocal process granulomas are gastroesophageal reflux, intubation trauma, and vocal abuse (2). Symptoms usually include hoarseness (%91), sensation of lump or discomfort (47%), dyspnea (18%), cough (12%) and hemoptysis (6%) (3). The treatment is directed by the cause (4). Indications for surgery are airway obstruction and biopsy for histopathologic diagnosis (5).

In this case report airway management of a patient with a giant vocal process granuloma scheduled for emergency surgery for removal of the granuloma was reported.

## CASE PRESENTATION

A 30 years old, 76 kg weight, female patient was admitted to Ear Nose and Throat Clinic who complained about hoarseness lasting for 4 months and dyspnea that occurred in the last week and its severity progressively increased. She was not a smoker and she had no history of upper respiratory tract infection or endotracheal intubation. In her medical history she had hiatal hernia and gastroesophageal reflux for 1 year. She had inspiratory stridor and examination of her glottis with indirect laryngoscopy revealed a granulom almost completely occluding her glottis (**Figure 1**).

**Figure 1.** A granulom that occluding patient's glottis

After patient approval urgent microlaryngeal surgery was planned and the patient was admitted to the operating room. Anesthesia team was prepared for difficult airway management strategies including tracheostomy. After standard monitoring, patient was pre-oxygenated with 100% oxygen. Anesthesia induction was performed with 200 mg propofol, 100 µg fentanyl; 40 mg rocuronium was administered to facilitate mask ventilation, laryngoscopy and intubation. Then the patient was intubated with a 5.0 mm microlaryngeal tube at the first attempt. Anesthesia was maintained with 50% airand 1-2 % sevoflurane in oxygen. Operation lasted for 30 minutes and the granuloma lying posterior to the right vocal cord was successfully excised. After the end of the procedure anesthetic agents were discontinued and the patient was extubated following administration of 200 mg sugammadex.

After histopathologic examination the granuloma was diagnosed as 1,2*0,7*0,5 cm giant granulomatous ulcer (**Figure 2**).


**Figure 2.** 1,2 X 0,7 X 0,5 cm giant granulomatous ulcer

## DISCUSSION

The treatment of vocal process granuloma is directed by the cause (4). Voice therapy, management of gastroesophageal reflux, surgery, antibiotics, steroids, observation, irradiation, botulinum neurotoxin injection and membranous vocal fold augmentation are the treatment options (5). Most of the granulomas will disappear in 3-6 months with conservative therapy involving speech therapy, cessation of smoking and proton pump inhibitor drugs (6).

Because of high recurrence rates surgery should not be the initial therapy (7).Indications for surgery are airway obstruction and suspicion of carcinoma. Our patient underwent surgery because she had stridor.

There is no consensus on the optimal management of the obstructed adult airway management (8). An expert may find another's propose unacceptable(9).Induction of anesthesia with volatile anesthetics and avoiding neuromuscular blockade(10); intravenous induction and using neuromuscular blockade(11); avoiding general anesthesia and securing airway by awake fiberoptic intubation technique(12,13); tracheostomy under local anesthesia(14) and insertion of a transtracheal catheter under local anesthesia(15)are all options for airway management. We should not let these options to confound us. We must set up a plan considering the experience of the anesthesist, the equipment available, the urgency of the situation, the patient's co morbidities and the site of airway obstruction. Backup plans should be ready to proceed in case of failure of the first plan.

Glottis opening of our patient was not enough to pass our fiberoptic bronchoscope through. So we did not prefer awake fiberoptic intubation. After slow injection of propofol and verifying that positive pressure mask ventilation was possible, induction was completed with total 200 mg propofol, fentanyl 100 µg and 40 mg rocuronium. Then the patient was intubated with a 5.0 mm microlaryngeal tube at the first attempt. The tube may have passed through the narrow glottic opening probably due to the elasticity of the granuloma. Nouraei et al. has shown superiority of positive pressure ventilation over spontaneous ventilation in adult stridulous patients with laryngotracheal stenosis(11). So we did not try to preserve spontaneous ventilation. During the induction period an experienced scrubbed surgeon was ready for our backup plan, emergency tracheostomy.

**Patient approval:** Written informed consent was obtained from the patient.

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