

# Anesthetic Management of a Patient with Benign Symmetrical Lipomatosis: A Case Report

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## Abstract

A 59-year-old man with Benign Symmetrical Lipomatosis (BSL) who underwent the neck and chest lipomas resection under general anesthesia is described. Benign Symmetrical Lipomatosis (BSL) is a rare fat metabolism disorder characterized by the most common symptom of non-encapsulated axial lipomas symmetrically diffused around the neck. The airway was secured by video laryngoscopy intubation in this case. Sober local anesthesia or topical anesthesia may provide a simple and safe available method to retain spontaneous breathing for patients with BSL under general anesthesia.

**Keywords:** Benign symmetrical lipomatosis • General anesthesia • Airway

## Introduction

Benign Symmetrical Lipomatosis (BSL) is a rare fat metabolism disorder characterized by the symptom of non-encapsulated axial lipomas in the face, neck, and other areas [1]. BSL occurs more frequently in middle-aged men with heavy drinking history [2]. The mass lesions in the neck may interfere with the neck movements, and lead to neurologic disorders, and respiratory distress [3,4]. It was reported alcohol abstinence could prevent progression in the size of fat masses, but has no influence on the regression, while surgical resection is the most effective treatment [4]. There are no standard protocols of anesthetic management that have been developed for these patients with BSL. This case report reviews the management of general anesthesia, including airway assessment, induction, intubation and, postoperative analgesia. Written informed consent was obtained from the patient and his family before manuscript submission.

## Case Report

A 59-year-old man with BSL (Body mass index (BMI) 28 kg/m<sup>2</sup>) was scheduled to undergo elective neck and chest lipomas resection under general anesthesia. He was diagnosed with BSL via ultrasonography and a history of excessive alcohol use (500 ml alcohol per day, 10 years). The anterior neck masses were 10 cm × 6 cm, 12 cm × 5 cm, and the chest masses were 19 cm × 10 cm, 18 cm × 11 cm (Figure 1). The patient had no history of dysphagia, respiratory difficulties, no smoking or past surgery history. Cardiopulmonary, liver and renal functions were normal. Before surgery, the airway was evaluated with Mallampati grade II, the patient had no difficulty in opening mouth, the mandible developed normally, and the mobility of the head and neck was acceptable. Due to the accumulation of neck lipomas, difficult airway was anticipated. We prepared awake video laryngoscopy and fiberoptic intubation with topical anesthesia and sedation. In addition, a laryngeal mask was prepared to secure a surgical airway if necessary. Sufentanil was administered in increments of 5 µg (total: 10 µg). We also administered an intravenous

pumping bolus of dexmedetomidine (40 µg, 10 min). The tongue and pharynx were anesthetized with 3 ml of 2% lidocaine and 2 ml of 4% lidocaine spray. 10 minutes following the above anesthesia, the video laryngoscopy was inserted, and the epiglottis was visualized clearly. During this period, the patient felt no discomfort. Then the airway was further reevaluated as a non-emergency airway, and rapid sequence induction was subsequently performed with sufentanil 0.4 µg/kg, etomidate 0.3 mg/kg and rocuronium 0.6 mg/kg.

After induction and relaxation, a 7-mm ID tracheal tube was inserted successfully and confirmed with bilateral breath sounds, and direct visualization. Anesthesia was maintained with oxygen, remifentanil, and propofol adjusted to obtain a Bispectral Index value 40-60. The intraoperative course was smooth, and the vital signs were stable. The tracheal tube was removed postoperatively when the patient demonstrated spontaneous breathing, adequate tidal volumes and baseline strength in the head and all extremities. Postoperative 30 minutes, the patient was transferred to the general ward (Figure 2). The length of operative and anesthesia was 180 and 198 minutes, respectively. The patient received patient-controlled intravenous analgesia with sufentanil (200 µg), oxycodone (200 mg) and ondansetron (8 mg) at a rate of 4 ml/hr for 2 days postoperatively, and was discharged uneventfully on postoperative day 5, without any complication.



Figure 1. Characteristic physical features of the patient with BSL.

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Figure 2. Post-operative patient status in general ward.

## Discussion

BSL is a fat metabolism disorder, symmetrically distributed in the subcutaneous superficial fascial space and/or deep fascial space [5]. There are multiple synonyms for this disorder, such as Madelung's disease, Launois-Bensaude syndrome, and multiple symmetrical lipomatosis [1]. Enzi [6] distinguished two types of BSL: type 1, fatty masses are symmetric in the surface of the body, and type 2 with a diffuse distribution of fatty masses. Our case was classified in the type 1 group. The lesions are generally asymptomatic; sometimes involve major vessels, nerves, and compression of the trachea and esophagus, while that was not present in our case. Because of aesthetic reason, and worries about lipomas continue to grow, surgery is recommended by the physicians. However, for these patients with BSL, the resection range is large, and repeated operations are often required [7,8]. Alcohol cessation and diet are advised to prevent the recurrence of BSL [4]. Preoperative assessment and preparation is of importance. The lesions in the neck are associated with laryngeal dislocation and compression of the trachea and esophagus. Patients with BSL often show hypothyroidism, chronic alcohol liver disease, impaired glucose tolerance or diabetes, so they are not well to tolerate anesthesia [7]. However, the routine lab tests were normal in our case. Given his condition, it is important to assess airway before surgery. The patient was identified as anticipated difficult airway due to the masses around the neck. After mild sedation and topical anesthesia, the epiglottis was visualized clearly by video laryngoscopy, and the patient can be well

tolerated. Therefore we re-evaluated it as a non-emergency airway among difficult airway, and then successfully completed rapid intravenous induction and tracheal intubation. According to the difficult airway management protocol, although the endotracheal tube was successfully inserted. It is undoubtedly that the best option is sober local anesthesia or topical anesthesia which can maintain spontaneous breathing for the patients with BSL, and can suppress the harmful stress response [9]. It is worth mentioning that tracheotomy is often not available for this kind of patients to establish a surgical airway.

## Conclusion

We reported the anesthetic management of a patient with BSL. Airway assessment and preparation should be completed well. Sober local anesthesia or topical anesthesia, retaining spontaneous breathing, can be applied to patients with BSL.

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