



A CASE OF INFLAMMATORY TRACHEOBRONCHIAL TUMOR

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ABSTRACT

Sandhan karma is term mainly belongs from the Ayurveda branch of *Shalyatantra* elucidated by *Acharya Sushruta*. *Sandhan karma* is an ancient scientific discipline that can be compared to the plastic or reconstructive surgery of contemporary science. The traditional texts of Ayurveda also encompass descriptions on the reconstructive operation or plastic surgery. The various practice of the surgery mentioned by *Acharya Sushruta* in *Suhsruta Samhita* including descriptions of reconstructive surgery. *Suhsruta Samhita* also contains information about the other traditional approaches of surgical and para-surgical interventions. *Nasa Sandhan*, *Karna Sandhan* and *Oshtha Sandhan* are major approaches of *Sandhan karma* which described in details in present article.

KEYWORDS: *Ayurveda*, *Sandhan karma*, *Nasa Sandhan*, *Karna Sandhan*, *Oshtha Sandhan*.

INTRODUCTION

Tracheobronchial tumor is rare and diagnosis is sometimes difficult because in the early stages, both benign and malignant tumors have similar symptoms with asthma, chronic obstructive pulmonary disease or pulmonary infection.^[1] Malignant tumors are more frequent than benign tumors.^[1] Tracheobronchial benign tumors constitute 2% of all lung tumors, and most frequent are hamartoma and papilloma.^[2] We experienced a case with tracheobronchial inflammatory tumor, which was successfully removed by surgery and bronchoscopy.

CASE REPORT

A 75 years old male with weight 53 kg and height 163cm had hemoptysis and pain at left subclavian region during inspiration. He was pointed out left upper lobe abnormality on chest X-ray at the local clinic. He came to our hospital for further examination. He had jaundice 48 years ago and received gastrectomy for gastric ulcer 15 years ago. His blood counts and chemistry, and electrocardiogram were within normal range. His chest X-ray showed atelectasis in the left upper lobe (Fig.1), which advanced to the whole left lung after 3 weeks (Fig.2). The Computed tomography (CT) showed tumor in S1 and S2 in the left lung. Tumor was observed in the tracheal bifurcation by bronchoscopy (Fig.3). The gross appearance suspected squamous cell carcinoma, but

cytology did not show any malignancy. Left upper lobectomy or left pneumonectomy was scheduled for suspected lung cancer in the left upper lobe.

General anesthesia was induced with thiopental and fentanyl, and tracheal tube (internal diameter 9 mm) with a blocker was inserted after pancuronium administration. Anesthesia was maintained with sevoflurane, nitrous oxide in oxygen and fentanyl. In the right lateral position, chest was opened at 5th intercostal space. The tumor was observed in S1+2 lesion. Sleeve upper lobectomy was planned. However, under bronchoscopy to insert blocker in the left main bronchus, tumor was seen at the tracheal bifurcation. Surgeon tried to remove the tumor at the bifurcation under bronchoscopy, but it failed. Once chest was closed and the patient was put on the spine position. Then, tumor at bifurcation was removed with forceps under bronchoscopy (Fig.4). Again, patient was put on the right lateral position, left sleeve upper lobectomy was performed. Duration of surgery and anesthesia were 5 hours and 40 minutes and 7 hours and 35 minutes, respectively. Blood loss was 350 mL. He was extubated in the operating room and moved into the intensive care unit. Three days later, he was discharged from intensive care unit. Pathological examination showed the tumor was inflammatory tumor, not cancer.



Fig.1. Chest X-ray at admission Atelectasis was seen in the left upper region.



Fig.2 Chest X-ray after 3 weeks (before surgery) Atelectasis was seen in the left lung.

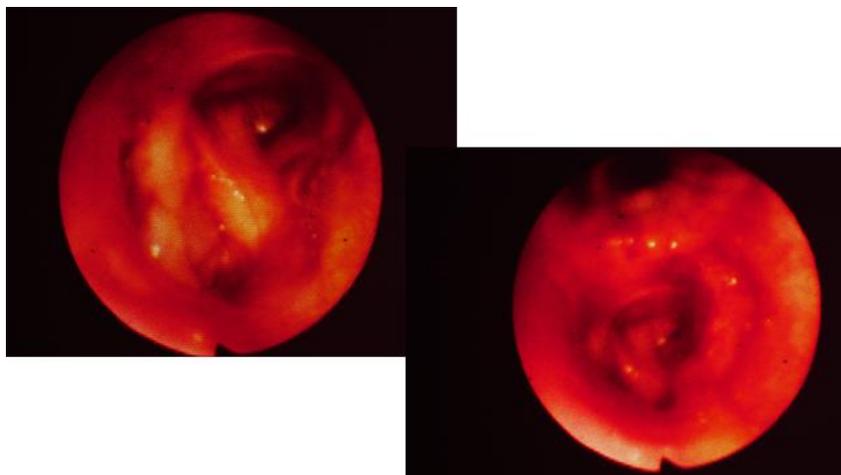


Fig.3 Bronchoscopic findings Bronchoscopically squamous cell carcinoma was suspected.

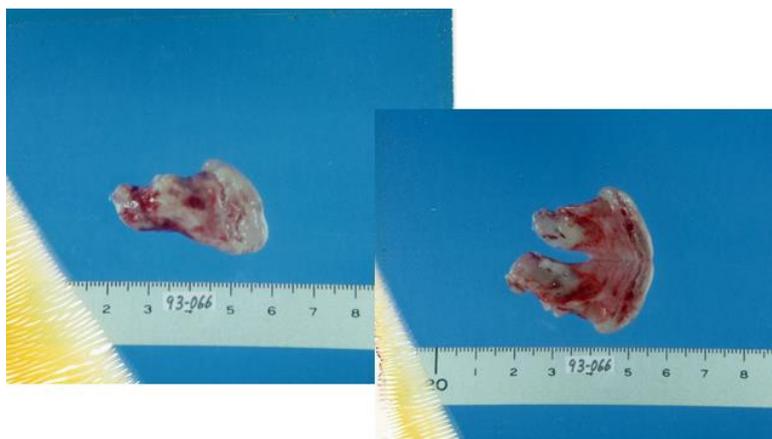


Fig.4 Excised tumor This is an inflammatory tumor, not cancer by pathological examination.

DISCUSSION

Squamous cell carcinoma and small cell carcinoma are most common types of tracheobronchial malignant tumors, and the former is more common to induce bronchial obstruction.^[1] This case showed bronchial obstruction, and the gross appearance by bronchoscopy suspected squamous cell carcinoma, while the final pathological diagnosis was an inflammatory tumor. Tracheobronchial benign tumors are quite rare and only 2% of all lung tumors,^[1] which are hamartoma, papilloma, leiomyoma, lipoma, chondromas, and neurogenic tumors. A case of an inflammatory endobronchial polyp associated with chronic smoke injury is reported.^[3] This case did not smoke, therefore, the factor to induce inflammatory tumor was not clear.

Patients with tracheobronchial tumor show cough, hemoptysis, chest pain, dyspnea, localized wheezing, or atelectasis due to bronchial obstruction.^[4,5] Our case complained hemoptysis and chest pain, and showed atelectasis on the chest X-ray. The tumor in the S1 and S2 in the left lung by CT and bronchoscopic appearance suspected squamous cell carcinoma, therefore, we scheduled surgical treatment.

An inflammatory endobronchial polyp decreased rapidly by intrabronchial steroids.^[3] Swamakar et al.^[6] reported a case of endobronchial leiomyoma, which responded well to steroids and antibiotics in 2 weeks. However, our case had also a tumor at S1 and S2 region, which was suspected squamous cell carcinoma. Therefore, we chose surgical treatment combined with bronchoscopic removal. The common bronchoscopic treatment of benign tracheobronchial tumor are thermal coagulation using electrocautery, argon plasma coagulation, or neodymium-doped yttrium-aluminum-garnet (Nd:YAG) laser, and cryotherapy.^[7] Electrocautery, laser coagulation, and argon-plasma coagulation showed immediate effect but cryotherapy has delayed effect,^[7] while cryotherapy may have few complications.^[8] Electrocautery and laser coagulation are effective when used for ablation of airway obstruction.^[9] The most common complication of laser therapy was hemorrhage and respiratory failure.^[10]

Perforation and fatal hemorrhage have been reported as serious complications of the laser because of unpredictable high-energy densities with the potential to destroy the intensity of the bronchia wall.^[11] We did not have laser coagulation devices, therefore, we chose bronchoscopic removal with forceps for tracheobronchial tumor. A case was reported with inflammatory myofibroblastic tumor of the trachea, which was removed with bronchoscopy.^[12]

We experienced a case with inflammatory tumor in the left upper lung extended into the tracheobronchial region, which was successfully removed by bronchoscopy and upper sleeve lobectomy.

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