

THE DIAGNOSIS AND TREATMENT OF ENDOBRONCHIAL HAMARTOMA OF CRYOTHERAPY BY FLEXIBLE BRONCHOSCOPY— A CASE REPORT

A.Teferici MD; I.Peposhi Ph.D; O.Nuredini MD

Department of Pulmonary Disease, University Hospital "Shefqet Ndroqi", Tirana, Albania*

INTRODUCTION

Endobronchial hamartoma is a rare benign tumor derived from parabronchial mesenchymal tissue. It can cause irreversible post obstructive pulmonary destruction with respiratory symptoms. Early diagnosis and treatment is very important. Traditionally, surgical resection has been considered the standard of treatment for endobronchial hamartoma. However, there is increasing experience using endoscopic treatment such as neodymium-doped yttrium aluminum garnet (Nd:YAG) laser and electrocautery for benign endobronchial tumor with paucity of reported complications. Bronchoscopic cryotherapy is a technique in which endobronchial tissue is destroyed by repeated freezing and thawing. This bronchoscopic technique is most often employed as a palliative therapy for malignant central airway obstruction with or without other modalities of endobronchial treatment. We report a case of endobronchial hamartoma, each diagnosed and definitively treated by cryotherapy via flexible bronchoscopy.

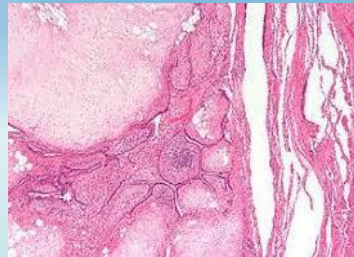
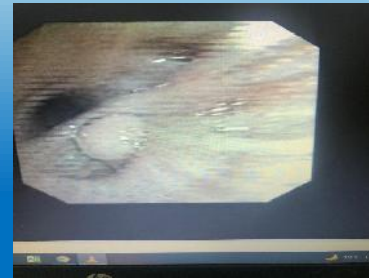
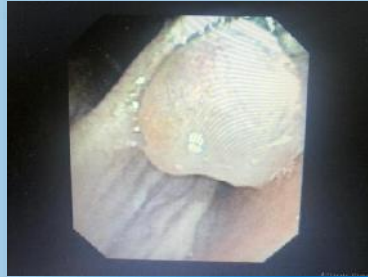
CASE HISTORY, EXAMINATION

A 68-year-old male with complaining of dyspnea for nearly two months was admitted to hospital, department of cardiology for chest pain and transudative right pleural effusion, with ACS diagnosis. He underwent Coronary Angiography test which **resulted negative**.

The thorax computerized tomography showed, right pleural effusion, there is an endoluminal with fat density lesion in the IX segment of the right lower lobe bronchus. In the mediastinal space there **are no lymph node**.

The bronchoscopy examination showed, IX segment of the right lower lobe was obstructed by a round mass. The cryotherapy, endobronchial procedure and tumor cryodebridement was performed. The mas has been successfully removed with small amount of bleeding. At bronchoscopic examination 1 month after removal showed good patency without any obstruction.

The histopathology result of removed mass has been Lipomatous Hamartoma



CONCLUSIONS

It has been suggested by our team that Cryotherapy with flexible bronchoscopy may be the useful diagnostic and therapeutic modality in management of endobronchial tumor with few complications with or without other thermal modalities of endobronchial treatment. Cryo- biopsy and therapy is a safe method and less invasive procedure in diagnosis and treatment of endobronchial hamartomas. Cryo approach should be considered as the primary treatment in endobronchial hamartoma.

DISCUSSION

Pulmonary hamartomas are the most common benign tumors of lung, with incidence 0.32% according to autopsy. Pulmonary hamartomas divided into two groups according to their location: parenchymal hamartomas or endobronchial hamartomas. Endobronchial hamartomas have low frequency between 1.4% and 13.8% of all pulmonary hamartomas.

Unlike the patients with parenchymal hamartomas, most patients with endobronchial hamartomas had at least one of respiratory complaints due to bronchial obstruction such as obstructive pneumonia, hemoptysis, cough, or dyspnea. Although endobronchial hamartomas are benign tumor with very low risk of malignancy and low rate of recurrence, early diagnosis and treatment is very important due to potential risk of bronchial obstruction, bleeding, and subsequent respiratory symptoms. Although surgical resection has been considered the standard of treatment for endobronchial hamartomas, there is increasing case reports and case series using bronchoscopic treatment such as Nd:YAG laser and electrocautery with comparable therapeutic efficacy with surgical resection and few reported complications.

Cryotherapy is the application of extreme cold energy to diseased tissue, in which cells are destroyed by the formation of intracellular ice crystals. Now, bronchoscopic cryotherapy is recognized as a useful endobronchial treatment modality in the palliative management for airway obstruction due to a malignancy.

Bronchoscopic cryotherapy is also useful in management for airway obstruction due to a benign endobronchial lesion, inoperable microinvasive carcinoma, hemoptysis due to a visible lesion, and the extraction of foreign bodies. For tumor cryodebridement, cryotherapy can be delivered through rigid or flexible bronchoscopy.

Repeated bronchoscopic examination is necessary for removal of necrotic tissue and clearing of secretion due to delayed sloughing of treated tissue.

The effectiveness of cryotherapy is limited in long-segment, submucosal, and extrinsic tumors. Our case were suitable for cryotherapy because endobronchial tumors narrowly attached the bronchus with stalk. We could relatively easily perform the endobronchial biopsy and removal of endobronchial hamartoma using cryotherapy via flexible bronchoscopy without complications.

During our procedures and postprocedural period, there was no notable complication except small amount of bleeding that was easily controlled by iced saline.

Follow-up of bronchoscopic examinations excluded residual or recurrent disease in our case. Although endobronchial cryotherapy has the disadvantages of potential need for repeated procedure, some delayed effects of treatment, and the relative resistance of certain benign tumors than other thermal techniques, this procedure has the advantage of a more favorable safety profiles and easier setup and procedural technique.