Amyloid tumour resected by laser therapy


ABSTRACT: We report a patient presenting with dyspnoea, cough and fever with a middle lobe atelectasis. Amyloid deposits in the bronchial wall caused almost complete obstruction of the middle lobe bronchus. The patient was treated with neodymium yttrium aluminium garnet (NdYAG) laser photoresection resulting in complete clearance of the middle lobe bronchus. Laser therapy has to be considered as first-line therapy for patients with endobronchial amyloidosis.

Case history

A 39 yr old female presented with dyspnoea, productive cough, fever (39°C) and fatigue. Her medical history was unremarkable. She was a 20 pack year smoker of cigarettes. Physical examination revealed no abnormalities and breath sounds were normal. A postero-anterior (PA) lateral chest roentgenogram showed atelectasis of the middle lobe.

Fig. 1. - Obstruction of the middle lobe bronchus by a mass protruding from the medial wall of the intermediate bronchus.

Fibreoptic bronchoscopy was performed and on the main carina and in the wall of the left main bronchus greyish-white lesions were seen. Furthermore, just proximal to the orifice of the middle lobe, the medial wall of the intermediate bronchus protruded resulting in a considerable obstruction of the middle lobe bronchus. The carina in the middle lobe bronchus was broadened.

Fig. 2. - a) bronchial biopsy with deposition of eosinophilic material in the submucosa (haematoxylin-eosin stain); b) bright green fluorescence of the eosinophilic material in the submucosa (congo-red stain).
AMYLOID TUMOUR RESECTED BY LASER THERAPY

Discussion

Amyloidosis in the lower respiratory tract can occur in three different forms: 1) as diffuse interstitial deposits; 2) as single or multiple pulmonary nodules; and 3) as tracheobronchial deposits, which is the most frequently found form [1]. The signs and symptoms depend on the site and extension of the amyloidosis. Patients may suffer from dyspnoea, cough, wheezing, haemoptysis, recurrent infections and occasionally atelectases are found. Localized bronchial deposits are usually found in the large lobar or segmental airways and they project into the lumen as rounded, smooth, greyish-white sessile tumours.

Repeated bronchoscopic resection is the usual therapy for obstructing endobronchial amyloidosis. This approach has certain disadvantages such as the risk of bleeding, strictures due to scar tissue and perforation of the bronchus. Cure is rarely achieved, often the lesion recurs within 12 months, and repeated resections are necessary. Only after excision of an isolated mass, either endobronchial or in the parenchyma, is recurrence rare. Other approaches such as pneumonectomy, radiotherapy or laser photoexsection [2, 3] have been reported.

The principle of light amplification by stimulated emission of radiation (laser) has been known for over 25 yrs and is now widely applied in medicine. For lesions in the bronchi the NdYAG laser is available and of especial value for the treatment of malignant tumours obstructing the larger bronchi. In most patients this results in important palliation [4]. Benign endobronchial lesions can also be treated successfully with the NdYAG laser [5, 6] and by this approach resection of normal lung tissue might be prevented. The major advantage of laser therapy in the treatment of endobronchial amyloidosis is the low risk of bleeding as a result of deep coagulation.

The follow-up of our patient is so far rather short and, although the treatment gave a considerable relief of symptoms, it remains uncertain whether a complete resection of the obstructing lesion has been reached. The successful experience of Breuer et al. [3] is, in this respect, promising and, based on this and our own experience, we think that laser therapy has to be considered as first-line therapy for amyloidosis of the respiratory tract.

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References

