A Rare Endobronchial Neurilemmoma (Schwannoma) *

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Primary neurogenic tumors of the lung are rare. Often, their histologic behavior presents a treatment dilemma. We present a case of benign endobronchial neurilemmoma managed by means of YAG laser resection together with a brief discussion of the management options available for these tumors. (Chest 1989; 95:461)

The incidence of primary neurogenic tumors of the lung has been estimated to be 0 to 2 percent of all lung tumors.1 These tumors are felt to originate from Schwann cells2 and are predominantly (75 percent) associated with neurofibromatosis of Von Recklinghausen disease.3 The second most common type is neurilemmoma.4 This can present either as a solitary benign neoplasm or a malignant form (rare) in the lung.

Primary pulmonary neurilemmoma usually occurs within the pulmonary parenchyma. To our knowledge, no case of endobronchial neurilemmomas has been reported in the literature. We present a case of endobronchial neurilemmoma managed by means of endobronchial YAG laser resection.

CASE REPORT

A 74-year-old man presented to the general medicine service of our institution with dyspnea on exertion and whitish sputum production. His history was negative for constitutional symptoms. Past medical history was significant for angina, two myocardial infarctions, and congestive heart failure. He was recently treated for right lower lobe pneumonia. Result of physical examination was essentially unremarkable.

Management

The results of CBC, electrolytes, and liver function tests were normal. The ECG revealed normal sinus rhythm. The arterial blood gas values on room air were PaO₂ 67; and PaCO₂ 33. The chest x-ray film was remarkable for right lower lobe infiltrate and cardiomegaly. A chest x-ray film scan of chest (Fig 1) revealed a 2.0 cm soft tissue mass in the right main stem bronchus, approximately 1.5 cm from carina. (A ventilation perfusion scan revealed 15 percent perfusion to right lower lobe).

Sputum Gram stain, culture, and cytology were unremarkable. Bronchoscopy with brushings and bronchial washings were negative. Mediastinoscopy was unrewarding. Histologic sections (Fig 2 and 3) of the bronchial biopsy revealed a spindle cell neoplasm with moderate degree of nuclear pleomorphism and rare mitosis. There were areas of Antoni A formation, necrosis, fibrosis, and a mixed inflammatory cell infiltration. Special stains including argentaffin, Bielschowsky, and desmin immunoperoxidase stain were negative. An S-100 immunoperoxidase stain was positive.

Cardiac evaluation during prior admission had revealed borderline cardiac functions. Based on this and the benign nature of this lesion, it was elected to proceed with transbronchial laser resection

DISCUSSION

Solitary primary neurogenic tumors of pulmonary parenchyma are rare. Seventy-five percent are associated with known Von Recklinghausen disease. Primary neurilemmoma of the lung (without association with Von Recklinghausen disease) is predominantly benign, with minimal tendency to recur. The few malignant neurilemmomas (Schwannoma) of the lung recorded in the literature seems to have a very good response to adriamycin chemotherapy.5 Thus, this malignant variety could be resected and postoperative adjuvant chemotherapy employed, if indicated. Some histologic features of this rare tumor are shown as follows:5,7

Benign

Most are encapsulated
Rare mitotic figures
Borderline pleomorphism

Malignant

Frequent perineural invasion with indistinct cellular borders
Frequent mitotic figures
Pleomorphic fusiform cells
May contain areas of hemorrhagic and cystic degeneration

FIGURE 1. The CT scan shows a 20 mm mass partially obstructing the right main stem bronchus, using a rigid ventilating bronchoscope. Postoperatively, his right lower lobe pneumonia and dyspnea resolved. At bronchoscopy, one year after his initial resection, no evidence of recurrence was found.

FIGURE 2. Fibrous neoplasm and portions of bronchial mucosa (hematoxylin-eosin, original magnification × 31).

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Rapid Development of Cor Pulmonale Following Acute Tonsillitis in Adults*

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We describe two adult patients in whom acute tonsillitis resulted in the rapid development of cor pulmonale in the absence of clinically evident upper airway obstruction or diffuse obstructive airway disease. Both patients had developed symptoms of sleep apnea and all-night polysomnography confirmed the presence of severe obstructive sleep apnea. These cases emphasize the potentially severe cardiovascular consequences of acute tonsillar hypertrophy in the obese adult patient.

(T chest 1989; 93:462-63)

Tonsillar hypertrophy in children can cause obstructive sleep apnea.1,2 In severe cases with marked upper airway obstruction and stridor, cor pulmonale may result.3,4 There is only one report of tonsillar hypertrophy in an adult leading to cor pulmonale.5 While the history of this patient suggested sleep apnea, it was not documented by polysomnography. We describe two obese adult patients in whom tonsillar hypertrophy following acute tonsillitis resulted in severe obstructive sleep apnea and the rapid development of cor pulmonale. Clinically evident upper airway obstruction with stridor was absent. This report highlights the potential for severe cardiovascular consequences of acute tonsillitis in adults.

CASE REPORTS

CASE 1

A 33-year-old obese woman with no previous sleep complaints other than mild snoring, developed weight gain, ankle swelling, marked daytime somnolence, disrupted sleep and worsening of the snoring in the month following an episode of acute tonsillitis. Physical examination revealed morbid obesity (350 lb), markedly enlarged tonsils, clear breath sounds without stridor, jugular venous distention, and 3+ edema to the knees. Arterial pH was 7.39, P O2 was 62 mm Hg, and P CO2 was 34 mm Hg. The main pulmonary arteries and cardiac silhouette were enlarged on chest roentgenogram and right ventricular strain and incomplete right bundle branch block pattern were evident on the electrocardiogram. Pulmonary function testing documented normal expiratory flow rates and a marked decrease in ERV and RV (Table 1). All-night polysomnography documented 130 obstructive apneas per hour with an oxygen saturation nadir of 74 percent. She declined tonsillectomy; her somnolence and peripheral edema have improved with nasal CPAP.

CASE 2

A 45-year-old previously healthy obese mild snorer developed daytime somnolence, loud snoring, and restlessness during sleep over a three-month period following an episode of streptococcal pharyngitis and tonsillitis. He experienced a 30 lb weight gain and peripheral edema refractory to therapy with furosemide. On examination, his weight was 320 lb, the tonsils were markedly enlarged, the jugular veins were distended, the breath sounds were clear without stridor, and 2+ edema was present to the knees. Arterial blood gas levels revealed pH, 7.36; P O2, 56 mm Hg; and P CO2, 48 mm Hg. Pulmonary function studies revealed normal

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REFERENCES


Figure 3. Spindle shaped cells in an Antoni A pattern with palisading of nuclei (right) (hematoxylin-eosin, original magnification × 500).