Case reports

Bronchial mucoepidermoid tumor in childhood

A report of two cases and a review of the English literature*

Joseph N. El-Jabbour1, Michel S. Slim2, Bassam Bekdash2, Charles K. Allam1, Amira Mansour1, Mehieddine H. Fahl3, and Philip Issa3

Departments of 1 Pathology, 2 Surgery, and 3 Radiology. American University of Beirut Medical Center, Beirut Lebanon

Abstract. The histopathological and clinical management of two children, 7 and 14 years of age, with bronchial mucoepidermoid tumor are reported. One had regional lymphatic involvement. Pneumonectomy was carried out for both because of local spread of the disease in one and extensive pneumonia in the other, which was followed by a smooth postoperative course. Both are asymptomatic and free of disease after a follow-up of 1.5 and 5 years, respectively. A review of the English literature revealed 17 other cases, the youngest being 4 years old. The low-grade malignant potential of this tumor in children is stressed.

Key words: Bronchial mucoepidermoid neoplasm — Pneumonectomy

Introduction

Tumors in childhood of a carcinomatous nature are uncommon and rarely originate from the tracheobronchial tree. The purpose of this paper is to describe the management of two children with mucoepidermoid tumor of the left bronchus, who were admitted to the American University of Beirut Medical Center (AUBMC). A review of the literature in English on this subject revealed the existence of 17 other cases reported in the pediatric age group.

Case reports

Case 1. H. F. (no. 481817), a 14-year old boy, was admitted to the American University of Beirut-Medical Center on 4 May 1979, with a history of pain in the left upper chest of 5 months' duration associated with productive cough, and one episode of severe hemoptysis but no fever. Before admission, several medications had been administered without effect.

On physical examination, blood pressure was 100/60 mmHg; pulse rate (PR) 88/min; respiratory rate (RP) 38/min; temperature 37 °C; weight 36.5 kg; height 148 cm. He looked pale, had normal breathing sounds bilaterally and had no digital clubbing or peripheral lymph-node enlargement. The liver was normal in size.

The abnormal laboratory findings were 9.2 g% hemoglobin, 21% hematocrit, 1.8% reticulocyte count. Erythrocyte sedimentation rate (ESR) was 80 mm after 1 h. Sputum culture showed a heavy growth of hemophilus influenza. Chest radiographs showed a mass intimately related to the left upper lobe (LUL) bronchus with consolidation and collapse of the LUL and lingula. He was given a course of chloramphenicol for the treatment of hemophilus and then referred to the surgical service with an unchanged radiological picture.

The preoperative clinical impression was a bronchial adenoma or a hydatid cyst. The tracheobronchial tree was well visualized by lung tomograms, which precluded the use of bronchoscopy (Fig. 1 A). The patient required a left pneumonectomy for total excision of the mass, which was hard, measured 7 x 5 x 4 cm and had infiltrated the wall of the left lower-lobe bronchus. Dense adhesions were present between the LUL, chest wall and mediastinum. The mediastinal involvement was so extensive that the pulmonary vessels had to be ligated intrapericardially. The left main stem bronchus was sectioned about 1 cm proximal to the palpable margin of the tumor. Upon dissection, the tumor had an intraluminal component and was composed of sheets of squamous cells mixed with cysts lined by mucin-secreting columnar cells (Fig. 1 B). In some areas, oxyphil cells were seen, while in others, sheets of clear cells were ectatic and surrounded by marked fibrosis and chronic inflammation. Six lymph nodes were isolated, two of which were infiltrated by tumor cells. The surgical margins of the specimen were free of tumor.

The postoperative hospital course was uneventful. He was discharged on the 6th postoperative day in good condition. In view of the lymphatic involvement, external irradiation of the left thoracic cavity was administered postoperatively; delivering a total tissue dose of 5600 rads over a period 1 month. On check-up 5 years later, he was completely asymptomatic and had no evidence of disease.

Case 2. A. S. (no. 575061), a 7-year old boy, presented to the AUBMC in November 1983 with history of repeated episodes of respiratory infections of 7 months' duration, accompanied by hemoptysis 2 months prior to admission. He was treated with several medications to no avail. There was a history suggestive of foreign-body aspiration.

* This paper was presented as a poster at the 16th Annual Congress of the International Society of Pediatric Oncology, Barcelona, 17–21 September 1984

Offprint requests to: M. S. Slim at the above address
Fig. 1. A Lung tomogram of case 1 showing the tumor originating from the LUL bronchus and no involvement of the left main stem bronchus. B Photomicrograph of specimen (case 1) showing glandular spaces lined by mucin-producing cells and an interstitium composed of squamoid cells.