pectorsis associated with dyspnea was related more to the severe left ventricular hypertrophy than to the valvular lesion. Of particular interest is the response to verapamil; good results with verapamil have been described in hypertrophic obstructive cardiomyopathy. It has been suggested that a disturbance of calcium metabolism may be the common factor in the various cardiomyopathies, with special reference to an increased net influx of calcium into cells, mitochondrial calcium overloading and energy depletion similar to the hypothesis of Wrogerman and Pena for different muscle diseases. It is possible that a similar disturbance of myocardial calcium metabolism may occur in hyperparathyroidism (reversal of iatrogenic hypertrophic subaortic stenosis after parathyroidectomy was described recently), or in some patients with a persistent high afterload (e.g., hypertension, aortic stenosis) with continuous inotropic demand on the left ventricle. This may result in excessive hypertrophy. Calcium antagonists may therefore be useful in patients where the hypertrophy is excessive in relation to the hemodynamic requirement.

REFERENCES


Palliation of Massive Hemoptysis from Unresectable Carcinoma of the Lung

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Unresectable carcinoma of the lung has traditionally been recognized as a contraindication to surgery in massive hemoptysis. A 60-year-old man had massive hemoptysis. At surgery an unresectable neoplastic mass invading the mediastinum and great vessels was encountered. Subtotal resection was accomplished using a stapler (Autostapler). The margins of the bronchial and vascular staples were of necessity placed directly through the tumor. The patient had an uneventful recovery and has survived six months without further hemoptysis. This method is presented as an effective strategic retreat under circumstances not permitting definitive therapy.

Hemoptysis exceeding 200 ml/24 hr carries an anticipated mortality of 50 to 100 percent in patients who do not undergo surgery.1-3 Although resection is the preferred treatment, disseminated pulmonary carcinoma with mediastinal involvement has traditionally been a contraindication to surgery.1,3 The purpose of this report is to present the findings in a patient with massive hemoptysis from unresectable carcinoma in whom surgical resection was feasible using a stapler, with long-term palliation.

CASE REPORT

A 60-year-old man was admitted with a 24-hour history of hemoptysis. Four months prior to this admission, the patient had been noted to have a cavitary lesion in his right upper lobe. He had a positive reaction to purified protein derivative of tuberculin, but a bronchoscopic procedure yielded washings that were negative on culture and normal on cytologic study. He was treated with isoniazid and ethambutol.

On this admission, the patient had decreased breath sounds over the right upper pulmonary field. The hemoglobin level was 13.3 gm/100 ml. Arterial blood gas levels and the results of studies of coagulation were within normal limits. A chest x-ray film confirmed the cavitary lesion in the right upper lobe. In the 12 hours following admission, the patient coughed up 250 ml of blood, and his right upper lobe showed opacification (indicating more loss of blood) (Fig 1). He was treated with nebulated oxygen, bed rest, and codeine, but he continued to cough up blood.

The patient was taken to the operating room. At right thoracotomy, it was immediately apparent that the process in the right upper lobe was carcinoma and not a tuberculous cavity. The neoplasm had extensively invaded the mediastinum. The pericardium was opened, but tumor was palpable.

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FIGURE 1. Preoperative chest x-ray film depicting acute opacification of right upper lobe.

on the right pulmonary artery between the superior vena cava and aorta. An attempt to dissect down to the extrapericardial right pulmonary artery was impeded by 5 X 5-cm mass of carcinoma. The tumor was unresectable; however, the prognosis without resection appeared poor. A stapler (TA-90) was placed directly across the tumor at the base of the right upper lobe, and the lobe was resected. No bleeding or leakage of air was apparent following removal of the upper lobe. The row of staples was directly through the carcinoma. The patient was discharged two weeks following surgery, with no further hemoptysis. The lines of staples are evident on the chest x-ray film taken six months following surgery (Fig 2).

DISCUSSION

Once the diagnosis of massive hemoptysis is made and the site of bleeding localized, surgery should proceed immediately. Contraindications to pulmonary resection include compromised pulmonary function, an inability to localize the site of bleeding, bleeding secondary to mitral stenosis or a coagulopathy, and nonresectable metastatic lung cancer. At times, thoracotomy must be undertaken prior to confirmation of the diagnosis. Multiple temporizing diagnostic and therapeutic maneuvers have been suggested, such as arteriographic studies,4 tamponade with a balloon-tipped catheter (Fogarty catheter),4,5 a double-lumen endotracheal tube,6 and bronchoscopic examination,1,5 with variable results. Recently, the bronchoscopic procedure has been indicated as meddlesome and even dangerous in patients in whom the site of bleeding is reasonably clear (Fig 1).6 Chamberlain and McNeil7 have advocated simple bronchial closure to prevent further aspiration in the very ill patient. The stapling instrument is capable of a secure bronchial closure, but its use in resecting directly through tumor has not been reported previously. If main-stem bronchial involvement with tumor counts only as a relative contraindication to surgical resection in massive hemoptysis, then the necessity of a potentially dangerous bronchoscopic procedure is eliminated. Tuberculosis continues to be the most common cause of massive hemoptysis1 and, indeed, was our preoperative diagnosis in this case; however, effective surgical palliation of massive hemoptysis is feasible in the face of disseminated, unresectable pulmonary carcinoma.

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Combined Intravenous Miconazole and Intrathecal Amphotericin B for Treatment of Disseminated Coccidioidomycosis*

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