Treatment of Pulmonary Artery Compression Due to Fibrous Mediastinitis With Endovascular Stent Placement*

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We present the case of a 32-year-old woman with high-grade right pulmonary artery stenosis secondary to fibrous mediastinitis. The patient was managed with balloon angioplasty and stent placement. Only 15 cases of this nature have been reported in the literature, and this is one of the first to be managed with endovascular stent placement.

(CHEST 2001; 119:966–968)

Key words: balloon angioplasty; fibrous mediastinitis; pulmonary artery stenosis; stent

Abbreviation: SVC = superior vena cava

Fibrous mediastinitis is a rare condition first described in 1855 by Nathan Oulmont.1 It is typically associated with mycobacterial and mycotic infections.2 Patients typically present with superior vena cava (SVC) syndrome.3,4 Most cases have a benign clinical course until the lesion constricts a major mediastinal structure.2 Fifteen other cases of fibrous mediastinitis with pulmonary artery compression have been described in the literature.5-12 In the past 10 years, endovascular approaches have provided an effective treatment option for those individuals suffering from SVC syndrome.13,14 Recent advances in endovascular techniques have allowed the dilation and stenting of the pulmonary artery. To our knowledge, only one other case of fibrous mediastinitis has been managed with pulmonary artery endovascular stenting.11

CASE REPORT

A 32-year-old woman from the Mississippi Valley presented with severe shortness of breath and chronic cough. Physical examination demonstrated distended neck veins and symptoms consistent with SVC syndrome. Chest radiograph revealed an area of calcification in the right parasternal region at the level of the third rib (Fig 1). A pulmonary perfusion scan was performed that indicated essentially no perfusion to the right lung. A CT scan was performed that revealed a lesion adjacent to the right main pulmonary artery. The patient underwent two mediastinoscopies. Frozen section evaluation and cultures demonstrated a fibrous histology with no evidence of mycobacterial or fungal infection. The patient was prescribed an anti-inflammatory steroid regimen, with some resolution of the SVC syndrome. A CT scan demonstrated a mass approximately 3.0 cm by 2.5 cm by 2.0 cm and SVC stenosis with significant collateral veins. Peripheral administration of contrast was unable to visualize the right pulmonary circulation, so a catheter was employed to administer the contrast proximal to the right pulmonary artery (Fig 2). This showed an abrupt stenosis of the right main pulmonary artery. An angiographic study revealed 95% stenosis of the right pulmonary artery at its junction with the right lower pulmonary artery, and total occlusion of the right upper pulmonary artery (Fig 3). The stenosis was dilated and stented with a Palmaz 424 medium catheter (Cordis/Johnson and Johnson; Miami, FL) over a 5.8F 10-mm balloon catheter. A poststent angiogram confirmed the appropriate placement of the stent and patency of the right lower and middle pulmonary arteries (Fig 4). The patient was prescribed aspirin, 5 grains tid, and discharged.

Shortly after the stent placement, the patient had complete...
resolution of symptoms. At 3-month follow-up, she had continued absence of symptoms, and a pulmonary perfusion scan indicated appropriate ventilation and perfusion to the right lower and middle lobes.

**DISCUSSION**

Fibrous mediastinitis is a rare condition that was recognized as a cause of SVC obstruction by Osler in 1903.\(^3\) Cases may be idiopathic or associated with tuberculosis, histoplasmosis, sarcoidosis, silicosis, or other fungal infections.\(^2\) Mediastinoscopy is warranted to distinguish this inflammatory process from a malignancy. Patients with fibrous mediastinitis generally have a benign clinical course until a mediastinal structure is compressed.\(^1\) The first and most common structure affected is the SVC, but involvement of the pulmonary artery, phrenic nerve, recurrent laryngeal nerve, and pulmonary veins have also been documented.\(^9\)

SVC stent placement is an effective approach to managing SVC syndrome associated with fibrous mediastinitis.\(^12,13\) In addition, steroid therapy may be an appropriate option in patients with mild obstruction, or as an adjunct to other treatment approaches, although this has not been established.\(^16\)

Endovascular pulmonary artery angioplasty has been used extensively in pediatric patients with tetrad of Fallot.\(^17\) The use of this approach in treating pulmonary stenosis with fibrous mediastinitis has been employed only recently.\(^11\) We believe it is an appropriate option that should be considered when presented with such a condition.
Chronic Eosinophilic Pneumonia Presenting With Recurrent Massive Bilateral Pleural Effusion*

Case Report

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We describe a rare case of a 29-year-old woman with chronic eosinophilic pneumonia (CEP) presenting with massive bilateral pleural effusion leading to respiratory failure, a complication that was not reported before with CEP. The patient was successfully managed with ventilatory support and steroid therapy. On long-term follow-up, she remained well, receiving a low maintenance dose of prednisone without evidence of relapse of the disease.

(CHEST 2001; 119:968–970)

Key words: chronic eosinophilic pneumonia; massive pleural effusion; respiratory failure.

Abbreviations: CEP = chronic eosinophilic pneumonia; HES = hypereosinophilic syndrome

Chronic eosinophilic pneumonia (CEP), a rare eosinophilic lung disease of unknown etiology, is characterized by peripheral blood eosinophilia, chest radiograph infiltrates, and prompt response to corticosteroid therapy.1 The first detailed description of CEP was by Carrington et al in 1969.2 CEP most commonly affects women of middle age. The usual symptoms are cough, dyspnea, fever, and weight loss. We report a case of CEP presenting with massive, rapidly accumulating pleural effusion progressing to respiratory failure that, to our knowledge, has not been reported previously.

CASE REPORT

A 29-year-old nonsmoking woman presented with a 5-month history of shortness of breath and dry cough. She denied any history of fever, night sweats, or weight loss. She had no history of chest pain, palpitation, arthralgia, arthritis, or skin rash. There was no neurologic or GI symptoms and no travel history.

The patient was initially admitted to another facility with the same history of shortness of breath and dry cough. She denied any history of fever, night sweats, or weight loss. She had no history of chest pain, palpitation, arthralgia, arthritis, or skin rash. There was no neurologic or GI symptoms and no travel history.

She was discharged after 3 days of bed rest and respiratory support. One week later, she returned to the hospital with severe respiratory distress. Chest X-ray showed massive bilateral pleural effusion (PE). A bedside thoracentesis was performed and the fluid was clear without eosinophils. She was transferred to our hospital for further management.

On admission, she was noted to be in severe respiratory distress with bilateral rales and dullness to percussion. She had a high fever, hypoxia, and tachypnea. Chest X-ray showed massive bilateral PE with a left middle lobe and lingula collapse. She was intubated and started on noninvasive ventilation.

An urgent CT chest was performed, which showed bilateral PE with a left middle lobe and lingula collapse. She was started on high-dose prednisone and transferred to the intensive care unit (ICU) for ventilatory support. She was weaned off the ventilator on the second day and was discharged home on a maintenance dose of prednisone.

She was followed up in the clinic and was noted to have a gradual improvement in her symptoms. Her prednisone dose was reduced and she was discharged home on a maintenance dose of 5 mg daily. She was seen in the clinic every 6 months and was noted to have a gradual improvement in her symptoms. Her prednisone dose was reduced and she was discharged home on a maintenance dose of 5 mg daily. She was seen in the clinic every 6 months and was noted to have a gradual improvement in her symptoms.

A detailed description of CEP was by Carrington et al in 1969.2 We describe a rare case of a 29-year-old woman with chronic eosinophilic pneumonia (CEP) presenting with massive bilateral pleural effusion leading to respiratory failure, a complication that was not reported before with CEP. The patient was successfully managed with ventilatory support and steroid therapy. On long-term follow-up, she remained well, receiving a low maintenance dose of prednisone without evidence of relapse of the disease.

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