SPECIAL REPORTS

Regrowth of a Left Atrial Myxoma

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The clinical, hemodynamic, surgical and pathologic features of a regrowth of a left atrial myxoma are presented. It is suggested that peeling off the left atrial myxoma coupled with resection of the portion of the atrial septum to which the tumor is attached be carried out. Transitory complete heart block appeared within 24 hours following the second surgical procedure, but responded well to the implantation of a temporary demand pacemaker.

Until recently myxoma of the left atrium had been considered one of the few lesions that could be definitely cured by its resection. Therefore, the regrowth of the left atrial myxoma has seldom been reported. Since Crafoord1 first successfully removed a left atrial myxoma under direct vision in 1954, only three such cases have been described.2,4 The purpose of this communication is to report the fourth case of regrowth of a left atrial myxoma which occurred three years following its initial resection.

CASE REPORT

This 49-year-old black woman was seen at Deborah Hospital for the first time in February 1968 complaining of palpitations of approximately eight years’ duration. In 1959, she had been hospitalized at another institution for two weeks because of cough, chest pain, palpitations and exertional dyspnea. A murmur was then discovered. Since then she had become progressively worse, with increasing dyspnea, orthopnea and nocturnal dyspnea and for two years prior to her admission, there had been occasional dizzy spells. There was no history of rheumatic fever.

Physical examination suggested mitral stenosis associated with pulmonary hypertension and tricuspid regurgitation. There was a loud first heart sound, an apical grade 2/6 early mid-systolic murmur, an opening snap followed by an apical grade 3/6 mid-late diastolic rumble, an early mid-systolic murmur at the left lower sternal border which increased on inspiration and an accentuated pulmonic closure sound. The cardiac rhythm was regular. The jugular venous pulse was prominent and a heptato-jugular reflux was present. There was neither liver enlargement nor peripheral edema.

The electrocardiogram showed normal sinus rhythm, normal QRS and P axes and left atrial enlargement.

The chest x-ray films revealed moderate cardiac enlargement with moderate left atrial enlargement and slight enlargement of the right ventricle. The pulmonary arterial segment was prominent and the pulmonary vascular markings were somewhat increased showing increase of shunting to the upper lobes. All the laboratory findings were normal.

A combined right and left cardiac catheterization on November 17, 1967 showed a moderate degree of pulmonary hypertension and a slightly reduced cardiac output of 4.2 liters per minute. The mitral gradient was 7 mm Hg and the calculated functional mitral valve area was at least 1.5 cm² (Table 1). The left atrial and left ventricular pressure tracings did not show the so-called “classic” signs of left atrial myxoma.

At operation* (March 13, 1968) a tumor, myxomatous in gross appearance, measuring 5 x 3 x 4 cm was found attached to the interatrial septum at the level of the fossa ovalis. The tumor was peeled off the left atrium; however, the atrial septum was left intact. The mitral valve was found to be normal. Postoperatively she did well until October, 1971 when she noted recurrence of the symptoms which she had prior to surgery; and, in addition, weight loss and low grade fever.

On examination, she was found to be orthopneic, showing prominent jugular veins even at sitting position. The first heart sound was accentuated. The second heart sound was loud, especially the second component (P2). This was followed by a grade 2-3/6 rough early blowing diastolic murmur along the left sternal border. An opening snap was heard all over the precordium, followed at apex by a grade 3/6 mid-late diastolic rumble with presystolic accentuation. In addition, a grade 3/6 early mid-systolic murmur was heard at the xiphoid area which increased on inspiration. The peripheral pulses were normal. The liver was palpable two fingerbreadths below the right costal margin. There was a moderate degree of edema on both legs.

The electrocardiogram obtained during this admission showed no significant change when compared with the pre-

*The surgical procedure was carried out by Drs. Henry Nichols, Dryden Morse and Javier Fernandez.

Table 1—Hemodynamic Data

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<th>ASC. AO.</th>
<th>LV-PVC GR.</th>
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PVC Pulmonary venous capillary
PA Pulmonary artery
RV Right ventricle
PVR Pulmonary vascular resistance
CI Cardiac index
LV Left ventricle
ASC. AO. Ascending aorta
LV-PVC GR. Left ventricle-pulmonary venous capillary gradient
LV GRM. Left ventriculogram
REGROWTH OF LEFT ATRIAL MYXOMA

PULMONARY ARTERY PRESSURE OBTAINED DURING 2nd CATHETERIZATION

FIGURE 1. Pulmonary arterial pressure showing widening of its pulse pressure obtained during the second right heart catheterization.

operative tracing; however, the chest x-ray films showed an increase in the over-all heart size with an increase in the pulmonary arterial segment. The echocardiogram was not suggestive of atrial tumor.

On November 24, 1971 combined right and left heart catheterization showed moderate to severe degree of pulmonary hypertension associated with a mitral valvular gradient of 17.3 mm Hg (Table 1). The pulmonary arterial pressure exhibited a wide pulse pressure (Fig 1) with displacement of the dicrotic notch in the lower portion of the pulmonary artery pressure. A pulmonary cinearteriogram showed a large filling defect in the left atrium (Fig 2), as well as a significant degree of pulmonary regurgitation. The left ventriculogram also showed the proximity of the tumor to the mitral valve causing mitral regurgitation and likewise showing the left atrial filling defect.

On November 30, 1971 the second open heart surgery was carried out and a large left atrial myxoma (Fig 3), measuring 5 x 3 x 4 cm in diameter was found and excised together with the interatrial septum at its attachment. The created intra-atrial defect was repaired with a Dacron patch. The postoperative course was complicated by complete AV block on the second postoperative day (Fig 4), necessitating the insertion of a temporary demand pacemaker transvenously and large doses of steroids. Eventually the demand pacemaker was removed with resumption of normal AV conduction. The electrocardiogram then exhibited right axis deviation and right bundle branch block.

DISCUSSION

The paucity of reports concerning the recurrence of left atrial myxoma and clinical findings suggestive of multivalvular lesions notwithstanding, this patient had regrowth of the tumor three years after its removal. The diagnosis was suspected because of the recurrence of the symptoms which she had before the first operation in addition to systemic signs (fever, anemia and malaise). What could have been interpreted as aortic regurgitation on auscultation was actually pulmonic regurgitation secondary to moderate to severe pulmonary hypertension, a Graham-Steell murmur. This was clearly demonstrated by the pulmonary cineangiograms. The aortogram showed no aortic regurgitation. The left sternal border systolic murmur represented functional tricuspid regurgitation. For the diagnosis of left atrial myxoma, angiocardio graphic demonstration of the filling defect in the

FIGURE 2. Levophase of the pulmonary cinearterioangiogram showing the left atrial filling defect.

FIGURE 3. Pathologic specimen.

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FIGURE 4. Electrocardiogram obtained in the intensive care unit showing complete heart block.
crease in the risk of intracardiac reoperation (bypass changes remain unexplained. The operative trauma was of reoperation for regrowth of a tumor not adequately removed. The patients with negative skin tests on rechallenge [19 percent] had positive skin tests on rechallenge (75 percent) had positive skin tests on rechallenge at the time the diagnosis was originally established. Sixteen of the 27 patients were retested with coccidioidin and 14 (88 percent) developed positive skin reactions while only two (12 percent) remained negative. Most of the patients with negative skin tests at the time of original evaluation (75 percent) had positive skin tests on rechallenge. Since the patients with negative skin tests were clinically and immunologically similar to the patients with positive skin tests, we suspect that many of the original negative reactions would have been positive had the skin testing program been more vigorously pursued.

Coccidioidin Skin Reactivity in Pulmonary Coccidioidomycosis*

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We examined the records of 27 patients who had confirmed pulmonary coccidioidomycosis to substantiate the number of patients with negative skin tests; it was also our purpose to closely examine those patients with negative skin tests to explain why they were immunologically different. Eleven of 27 patients, (40 percent) with pulmonary coccidioidomycosis were negative to coccidioidin at the time the diagnosis was originally established. Sixteen of the 27 patients were retested with coccidioidin and 14 (88 percent) developed positive skin reactions while only two (12 percent) remained negative. Most of the patients with negative skin tests at the time of original evaluation (75 percent) had positive skin tests on rechallenge. Since the patients with negative skin tests were clinically and immunologically similar to the patients with positive skin tests, we suspect that many of the original negative reactions would have been positive had the skin testing program been more vigorously pursued.

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