INTERLEUKIN-6 PRODUCTION AND RECURRENT CARDIAC MYXOMA

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Cardiac myxomas produce and secrete interleukin 6 (IL-6), which may be a possible explanation for the inflammatory and immune features observed in most patients affected by these tumors.¹ In addition to explaining the presence of constitutional symptoms, IL-6 could have a potential role in tumor recurrence. Since IL-6 induces cell proliferation,² the question is whether a cardiac myxoma that produces high levels of this cytokine may have a higher rate of recurrence. This could be of special interest because the histologic appearance of the tumor cannot predict local or remote recurrence. The answer to this question will be obtained only by studying the evolution of patients with cardiac myxomas that produce high levels of IL-6. Herein, we present a case of tumor recurrence that was monitored along with regular measurements of IL-6 serum levels.

Clinical summary. A 15-year-old girl was admitted to the Guillermo Almenara Hospital in September 1994 with a 2-week history of fever, general malaise, fatigue, and peripheral edema. Her temperature was 38.2°C, erythrocyte sedimentation rate 67 mm/h, white blood cell count 6200/mm³, hemoglobin level 12.1 g/dL, and platelet count 483,000/mm³. The gamma globulin level was 22.6%, immunoglobulin G level 1825 mg/dL, C-reactive protein level 7.5 mg/dL, and IL-6 serum level 39 pg/mL. No family history of myxoma was noted. A giant right atrial tumor was revealed by 2-dimensional echocardiography.

The patient underwent a cardiac operation in which a 63 × 62 × 60 mm tumor was removed in addition to the underlying atrial septal endocardium. The tumor was excised with a por-

tion of the septum around the pedicle. An atrial septal defect, caused by the tumor excision maneuver, was closed with Dacron fabric. Histologic features of the tumor were typical of a cardiac myxoma. The patient's postoperative recovery was uneventful. The IL-6 serum level decreased rapidly after the operation and remained in the normal range (<5 pg/mL) until the last measurement done in February 1997. The constitutional symptoms permanently disappeared.

In October 1997 she was readmitted because of a 1-week history of general malaise, arthralgias, night sweats, and anorexia. She denied cough, cardiovascular, respiratory, or abdominal symptoms. Her temperature was 38.5°C; the remainder of the physical examination was normal. Hemoglobin level was 10.8 g/dL, white blood cell count 7500/mm³, platelet count 576,000/mm³, and erythrocyte sedimentation rate 90 mm/h. The gamma globulin level was 25.2%, immunoglobulin G 1970 mg/dL, C-reactive protein 12.7 mg/dL, and the IL-6 serum level 77 pg/mL.

Two-dimensional echocardiography revealed a left atrial mass attached to the posterior wall. The lesion was mobile and did not interfere with the mitral valve. Subsequently, a second operation was performed. The recurrent pedunculated mass (dimensions, 36 × 31 × 28 mm) was excised together with an additional cuff of atrial tissue, and the defect was repaired. Histologically, the tumor was a typical benign myxoma and indistinguishable from the previous lesion.

Comment. The malignant potential of cardiac myxomas is controversial. Cardiac myxomas are usually considered benign, but recurrences, multicentricity, and distant metastases have been documented,³ suggesting that cardiac myxomas may have an intrinsic malignant potential. Since IL-6 is known to be constitutively produced and secreted by cardiac myxoma cells, it has been hypothesized that IL-6 might be used as a marker of myxoma.⁴ One study⁵ showed that the amount of circulating IL-6 directly depends on the tumor size, that is, on the number of IL-6-producing myxoma cells. In the present case, the observed correlation between tumor size and IL-6 is lost with tumor recurrence, as evidenced by the presence of high IL-6 serum levels associated with a smaller recurrent tumor. These higher levels of IL-6 at the time of recurrence correlated well with the development of more intense constitutional abnormalities. Whether the IL-6 serum levels indicate the presence of an underlying more aggressive disorder or a direct responsibility for future recurrences (or both) is unknown.

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In summary, this case demonstrates that IL-6 may play an important role in cardiac myxoma recurrence and suggests that recurrent tumors could represent a subgroup of myxomas that are intrinsically more aggressive. Future studies are warranted to investigate the biologic behavior of these interesting tumors.

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