Infected Cardiac Myxoma:
An Unusual Phenomenon

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Abstract

Infected cardiac myxoma is a rare phenomenon. Cardiac myxomas are primary tumors of the heart, usually benign and account for about 50% of the benign cardiac tumors. Patients usually present with a triad of constitutional, embolic, and obstructive symptoms. There are few reported cases of infected cardiac myxoma and there is no widely used definition. This is a case presentation describing a patient who was admitted to our institution, underwent surgical excision, and was subsequently discharged home.

Primary tumors of the heart are uncommon, usually intracavity, and more than 75% are benign (Hall, Cooley, McAllister, Frazier, & Wilansky, 2001). Myxomas account for approximately half of the benign cardiac tumors and are usually found in patients between 30 and 60 years old. Reynen (1995) indicates that the youngest known patient was a stillborn infant and the oldest a 95 year old woman. Cardiac myxomas occur predominantly in females and while most are sporadic or isolated, they can be familial or complex (Redberg, 1995). Most myxomas occur in the left atrium, although they can occur in any chamber of the heart. They arise from the endothelial surface of the cardiac chamber with the stalk close to the fossa ovalis (Redberg, 1995).

Hall et al. indicate that most patients with myxomas present with one or more effects of a triad of constitutional, embolic and obstructive symptoms. The patient with a cardiac myxoma may present with multiple clinical symptoms, including fever, weight loss, malaise, and arthralgias and are often similar in their presentation to sub acute bacterial endocarditis. While cardiac myxomas are uncommon, it is safe to say that the infected myxoma is rare. Marshall and McDonald (1998) indicate that there are few reported cases of infected atrial myxoma and that they are distinguished by a higher rate of systemic embolization. There is no widely used definition of an infected cardiac myxoma, however, Revankar and Clark(1998) propose a 3-level definition: definite, probable, and possible.

Criteria for definite infected cardiac myxoma:

1. Documented myxoma by pathology and
2.a. microorganisms seen on pathology or
2.b.positive blood cultures and inflammation on pathology.

Criteria for probable infected cardiac myxomas:

1. Documented myxoma by pathology and positive blood cultures or inflammation on pathology.

Criteria for possible infected cardiac myxoma:

1. Characteristic appearance by transthoracic or transesophageal echocardiography and
2. positive blood cultures.

The following is a case presentation, describing a patient with infected left atrial myxoma who was admitted, underwent surgical excision, and subsequently discharged home.

J.B. is a 52 year old male who was admitted to the General Hospital on July 19, 2001. He was referred as a direct admission to the urology service with a suspected diagnosis of prostatitis. At the time of his admission he was diaphoretic, feeling miserable, but no pain or fever. He also reported a weight loss of 18 pounds in a 4-week period. The family doctor had diagnosed prostatitis 1 month previous and J.B was treated with oral Cipro (ciprofloxacin) for two weeks. The patient continued to have fever (39C), rigors, severe fatigue and decreased appetite at which time the medication was changed to levaquin (levofloxacin). J.B. remained weak, ill and the fever continued. Past medical history indicates that J.B. is a non-smoker, abstains from alcohol and has a penicillin and morphine allergy. He had an appendectomy in 1975, right ankle surgery many years ago, and is a manic-depressive. He had dental work six-eight weeks ago. J.B. complained of blurring eye pain for the last five days and his right great toe was also very painful and reddened. J.B. has no history of prostatitis. He is otherwise fit and healthy.

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Upon admission, the attending urologist felt that the urological symptoms were minor. J.B. was unresponsive to antibiotic therapy, therefore, a general medical consult was in order. The consulted physician felt it necessary to rule out the possibility of other infections such as sub acute bacterial endocarditis. This was based on the patients' description of constitutional symptoms, a dental procedure two months previous, and blurring eye pain for five days. The physician ordered blood cultures and an echocardiogram as part of this patient workup.

On July 23, 2001 it is reported that the blood cultures were positive for streptococci and Vancomycin was started. The ECHO also reported a mass in the atrium, and based on the presence of constitutional symptoms and the positive blood cultures the patient was recommended to have a transesophageal ECHO (TEE) performed.

The TEE described a large, 4cm x 6cm mobile mass attached to the left atrial foramen with a 7mm base stalk. It was very mobile with ragged ends and had ++calcium within. The mass was as prolapsing into the mitral valve but with no stenosis and was described as being consistent with left atrial myxoma and likely infected, which is very rare.

Infectious disease physicians who concurred with the diagnosis also assessed J.B.at this time and noted that there was embolization to the right great toe. It was decided that the next course would be surgical excision of the myxoma and continued treatment with vancomycin.

On July 27, 2001, J.B. underwent surgery for excision of an infected atrial myxoma. According to the surgeon, the indications for surgery were: history of dental procedure six weeks prior to admission, malaise and fever of unknown origin. Blood cultures were positive for viridans streptococci and TEE revealed a 4cm x 6cm left atrial myxoma.

Open heart surgery was performed through a median sternotomy. The patient was placed on cardiopulmonary bypass and the left atrium was opened through the interatrial septum. The left atrial myxoma was exposed, the stalk transected at the level of the fossa ovalis and the tumor removed. The resulting atrial septal defect was repaired with a Dacron patch and the interatrial septum closed. Cardiopulmonary bypass was discontinued, the patient stabilized and transferred to the Cardiac Intensive Care unit. A section of the tumor was sent for culture at the time of surgery and the results showed a moderate growth of gram positive cocci, with growth of viridans streptococci.

J.B. had an uneventful postoperative course and recovered well. He was discharged on August 3, 2001, to continue intravenous antibiotics as an out-patient for 14 days.

Conclusion

Infected myxomas are rare. The literature indicates that there is little to distinguish between the infected and uninfected myxoma. Due to the varied clinical presentations patients can be difficult to diagnose and in fact can often be misdiagnosed. It is important to note that with the advent of TEE and transthoracic ECHO, a diagnosis and effective treatment can begin. Revankar and Clark (1998) indicate that the infected myxoma often present in a similar fashion to subacute endocarditis, is completely curable, and usually leave no sequelae. Fever is almost always present, and many patients present with peripheral emboli.

In the 3-1evel definition proposed by Revankar and Clark (1998), it is evident that this case presentation is one of definite infected cardiac myxoma. Myxoma by pathology, positive blood cultures and positive microorganisms on pathology. This case presented a patient with fever of unknown origin who was thought to have urological infection. There is documented evidence of an embolic event, in that the right great toe showed embolization and possibly the episode of the blurring eye pain, which did resolve after surgery. Prompt diagnosis led to the patient having an uneventful postoperative course and discharge home. ❐

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