

Right-Side Infective Endocarditis Mimicking A Ventricular Myxoma

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SUMMARY

A 39 years old man was admitted with recurrent high fever, lost of appetite and weakness for three months. He had no history of congenital heart defect, intravenous drug use or central venous line insertion. Transeophageal echocardiographic examination established a right ventricular mass sized 32x13 mm that localized to apex and showed first degree pulmonary insufficiency. Diagnosis of cardiac myxoma was made and than mass was removed by surgically. Pathologic examination of the mass revealed suppurative inflammation that involving endocardium and myocardium with no evidence of myxoma. In addition Staphylococcus epidermidis was obtained repeatedly blood cultures. A diagnosis infective endocarditis was made on the basis of histopathologic findings and positive blood culture results. The patient was treated successfully by antimicrobial treatment (vancomycin plus gentamycin plus for 6 weeks) with surgery.

Keywords: Endocarditis, myxoma, echocardiography

VENTRİKÜLER MİKSOMAYI TAKLİT EDEN SAĞ KALP ENFEKTİF ENDOKARDİTİ

ÖZET

Otuz dokuz yaşındaki erkek hasta üç aydır tekrarlayan yüksek ateş, iştahsızlık ve halsizlik şikayetleri nedeniyle hastanemize yatırıldı. Tıbbi özgeçmişinde konjenital kalp hastalığı, intravenöz madde bağımlılığı veya damar içi girişim gibi bir risk faktörü yoktu.

Transözafagial ekokardiografide sağ ventrikül apeksinde lokalize 32x13 mm boyutlarında kitle ve birinci derecede pulmoner yetmezlik saptandı. Kardiyak miksoma tanısı konularak kitle cerrahi olarak çıkarıldı. Kitlenin patolojik incelemesinde endokardiyum ve miyokardiyumu tutan süpüratif inflamasyon bulguları saptandı buna karşın miksoma ile ilişkili patolojik bulguya rastlanmadı. Tekrarlayan kan kültürlerinde Staphylococcus epidermidis izole edildi. Histopatolojik ve kan kültürü pozitifliği sonuçlarıyla enfektif endokardit tanısı konuldu. Hasta cerrahi ve antimikrobiyal (vankomisin ve gentamisin) kombinasyonu ile başarılı bir şekilde tedavi edildi.

Anahtar kelimeler: Endokardit, miksoma, ekokardi-yografi

INTRODUCTION

Infective endocarditis (IE) is defined as inflammation of the endocardium and is a potentially fatal disease. Although blood cultures remain key in making the diagnosis IE, the need for indirect diagnostic techniques such as echocardiography that are both specific and sensitive is increasing. However vegetation can not always distinguish from cardiac mass even by transesophageal echocardiography (1-3). In this report, we presented a patient with right ventricular mural endocarditis in whom findings on an echocardiogram initially suggested the presence of a right ventricular myxoma.

CASE REPORT

A 39 years old man was admitted with a three months history of unexplained recurrent fever, lost of appetite and weakness. He had been treated medically for suspected upper respiratory tract infection in various clinical centers. However, he was unresponsive to the treatment and his general clinical status had progressively worsened. On physical exam, the patient's temperature was 38 °C, pulse was 98 bpm, blood pressure was 120/80 mm Hg, and respiratory rate was 18 breaths/min. The examination of his head and neck, and lungs were normal. His heart had a regular rate and rhythm, with no gallops, rubs, or murmurs. Abdominal examination revealed enlarged liver with span of 2cm, non-tender, firm and smooth. The rest of his physical examination was unremarkable. Laboratory tests showed that white blood cell (WBC) 7900/L with a normal differential, hemoglobin 13.4gr/dl, hemotokrit %38.7, erythrocyte sedimentation rate (ESR) 38 mm/h, and C-reactive protein (CRP) 20 mm/dL. Blood biochemistry and urinalyses were within the normal limits.

On ultrasonogram; gallbladder, portal vein and biliary system were normal whereas hepatomegaly (170 mm) was determined. Transoesophageal echocardiographic examination established a right ventricular mass sized 32x13 mm that localized to apex and showed first degree pulmonary insufficiency (Figure 1). Cardiac magnetic resonance imaging showed a solid 2x1 cm sized mass on anterior wall of right ventricle adjacent to interventricular septum. A diagnosis of right ventricular cardiac myxoma was performed upon these findings and the patient was sent to the cardiovascular surgery department. The mass was removed and tricuspid valve Key annoplasty was performed. Despite the surgical intervention, fever was persisted. Pathologic examination of the mass revealed suppurative inflammation that involving endocardium and myocardium with no evidence of myxoma (Figure 2). Staphylococcus epidermidis was grown from blood cultures that were obtained before the surgical intervention. Although initially the positive blood culture was thought to be contaminated, repeat cultures of blood from the two different peripheral vein yielded *S. epidermidis*. On the basis of histopathologic findings and positive blood culture results, a diagnosis of infective endocarditis was made. Combination of vancomycin (4x500 mg) plus gentamicin (3x80 mg) was given intravenously for six weeks.



Figure 1. Echocardiographic image of the right ventricular mass.

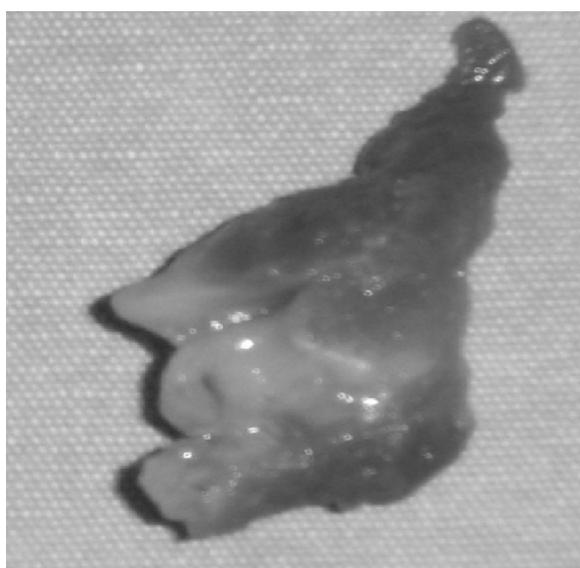


Figure 2. The image of the right ventricular mass removed by surgically.

Subsequently fever was not observed and there was no mass on echocardiography in follow-up examinations during the one year period.

DISCUSSION

Right-sided infective endocarditis has been estimated only 5% of all cases of infective endocarditis. Studies have shown that 73% of right-sided infective endocarditis cases have preexisting congenital heart disease or acquired valvular lesion (4). Hematogenous infection of normal mural endocardium without an

anatomical disturbance or immunosuppression has been reported to be exceptional. Ahmed and associates (5) reported a case of biventricular mural vegetations in a 40 year old patient with no known predisposing conditions. In the present case was described a young man who suffered recurrent fever and right ventricular mass was revealed by transesophageal echocardiography. The findings of transesophageal echocardiography were consistent with myxoma. Right side vegetation can mimic cardiac tumor, especially since the patients without history of drug abuse and without evidence of underlying cardiac abnormality like as our patient.

The most common pathogens associated with mural endocarditis are staphylococci, viridans streptococci, and Enterococcus spp. Most of the recent studies

about etiology of infective endocarditis was pointed out changing in spectrum of organism, especially increase in the incidence of coagulase-negative staphylococci (CoNS) (6,7). In our cases, CoNS yielded from blood culture initially was considered to be contaminated. But we decided it's a causative agent when repeated cultures of blood were yielded CoNS. About 75–85% of cardiac myxomas originate from the left atrium whereas 15–20% originate from the right atrium (8). Most myxomas arise from the interatrial septum adjacent to the fossa ovalis. Only 3–4% are found in the left and right ventricle each. Signs and symptoms of both myxomas and endocarditis may resemble each other. So, clinicians should be keep in mind IE in cases that thought to be cardiac myxoma with has suffered prolonged recurrent fever.

REFERENCES

1. Uppal KM, Nuno IN, Schwartz DS, Ashton KA, Vaughn AS. Isolated right ventricular outflow tract mass presenting as hemoptysis. *Ann Thorac Surg* 2000; 70: 2158-2159.
2. Leone S, dell'aquila G, Giglio S, et al. Infected atrial myxoma: case report and literature review. *Infez Med.* 2007;15: 256-61.
3. Nicholson MR, Roche AH, Kerr AR, Long S. Mitral valve vegetations in bacterial endocarditis resembling left atrial myxoma. *Aust N Z J Med.* 1980; 10: 327-9.
4. Ak K, Adademir T, Isbir S, Arsan S. Right ventricular mural endocarditis presenting as an isolated apical mass in a non-addict patient with congenital deafness and aphasia. *Right ventricular mural endocarditis presenting as an isolated apical mass in a non-addict patient with congenital deafness and aphasia. Interact Cardiovasc Thorac Surg.* 2009; 8: 498-500.
5. Ahmed I, Katz DH, Crooke GA, et al. Biventricular mural vegetations in a patient without valvular pathology. *J Am Soc Echocardiogr.* 2006; 19: 5-7.
6. Miele PS, Kogulan PK, Levy CS, et al. Seven cases of surgical native valve endocarditis caused by coagulase-negative staphylococci: An underappreciated disease. *Am Heart J.* 2001; 142: 571-6.
7. Khan NU, Farman MT, Sial JA, Achakzai AS, Saghir T, Ishaq M. Changing trends of infective endocarditis. *J Pak Med Assoc.* 2010; 60: 24-7.
8. Alter P, Grimm W, Rominger MB, et al. Right ventricular cardiac myxoma. *Herz* 2005; 30: 663-667.