

A CASE OF MITRAL STENOSIS COMPLICATED WITH SERONEGATIVE BRUCELLA ENDOCARDITIS

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Brucellosis is a zoonosis that's especially seen in the mediterranean region.Brucella endocarditis is a rare and destructive complication of brucellosis and involves the aortic valve more frequently than the mitral valve .

Our case's a 30 year old woman with the symptoms of chills,night fever and dyspnea lasting for 3 weeks. Echocardiographic investigation revealed a mass lesion on mitral anterior leaflet with characteristics compatible with the vegetation. Isolation of Brucella melitensis with serial blood cultures in addition to echocardiographic findings of infective endocarditis, specify the diagnosis of brucella endocarditis. In spite of positive blood culture for diagnosis, the patient remained seronegative (1/160 titers).

The antibiotic consisted of tetracycline, rifampicin and ciprofloxacin. During and at the end of first month of antibiotic the patient was in a good clinical condition and MVR (Mitral Valve Replacement) was planned for the severely stenotic mitral valve (0.6 cm²). Specimens from the mitral valve taken intraoperatively were accepted as sterile since no microorganisms could be isolated from these samples. She was discharged from the hospital on postoperative seventy?? day without any complication and antibiotic was planned to continue until the end of second month of illness.

It should be remembered that most of the brucella endocarditis cases are seropozitive, but as in our patient seronegativity doesn't exclude the diagnosis of brucella endocarditis. In addition we can state that succesful combination of antibiotic and surgical treatment can cure this destructive complication of brucellosis.

Key Words; brucellosis, endocarditis,mitral stenosis

Brucellosis is a zoonosis endemic in some regions of the world (1). Although it is a multisystemic disease, the common cause of death from the disease is endocarditis(2). The incidence of infective endocarditis caused by brucella

is 2 (3). Brucellosis frequently affects aortic valve (4). Mitral valve is less commonly affected.

Here, we report a seronegative *Brucella Melitensis* endocarditis case treated with combination of medical and surgical treatments.

CASE

A 30 year old woman with chills, fever, fatigue, palpitation and dyspnea lasting for 3 weeks, was seen in a routine outpatient examination. She had a history of fever up to 38° C with chills at nights.

Her medical history revealed Rheumatic Fever when she was 10 years old. She was put on benzathin penicillin prophylaxis monthly thereafter and was begun.

She had a fever of 38.3°, and 110/60 mmHg blood pressure at her first physical examination. A diastolic murmur was heard at the mitral region. The rhythm was atrial fibrillation with a normal ventricular response and showed signs of systemic congestion with hepatomegaly and pretibial edema. Her routine biochemical and hematological tests were within normal limits.

After the initial clinical evaluation it was found that she had mitral stenosis with a fever of unknown origin. Further diagnostic evaluation was planned and echocardiography was the first step. A mobile isoechoic mass

lesion on the mitral anterior leaflet was detected and possible mitral valve area was 0.62 cm² (Picture I). She was hospitalized for the infected endocarditis. Blood cultures were taken, an ampic regimen of antibiotics was started as Vancomycin, cultures were taken with 1 hours interval. *Brucella melitensis* was isolated in all of the samples. After these results were obtained the antibiotic treatment was changed to doxycycline (200mg/day), rifampicin (600mg/day) and ciprofloxacin (1000mg/day). After 30 days of treatment with these medications, the patient was stable and showed no signs of infection. The operation was planned for the severity stenotic mitral valve.

OPERATIVE PROCEDURE

After a median sternotomy, by using standard of cannulation technique, patient was cannulated and extracorporeal circulation was the initiated. Following the left atriotomy the huge vegetation was seen widespread on the mitral anterior leaflet (Figure II). The infected valve was excised. Cultures were taken from the valve and left atrium. Mitral valve was replaced with a 25 number Carbomedics bileaflet mitral prosthetic valve. Antibiotic treatment was used preoperatively, and continued after surgical procedure.

No microorganisms were isolated from the



Picture I. Transthoracic echocardiography showing a mobile isoechoic mass lesion on the anterior leaflet.



Picture II. Huge vegetation on mitral anterior leaflet is shown after left atriotomy.

cultures taken intraoperatively. The patient was discharged from the hospital at her 7th postoperative day on the medications for one month.

DISCUSSION

Brucellosis is a zoonosis caused by a aerobic gram (-) cocobacillus (5). The most frequent microorganism is *Brucella Melitensis*.

Although it can affect multiple systems, endocarditis is the most destructive, it is a resistant and fatal complication (6). Brucellosis is rare cause of infective endocarditis (3). In some studies the percentage of this endocarditis is between %9.1- %10.9 (7,8).

Especially in non-endemic areas the high level of clinical suspicion is the first step for diagnosis. No clinical difficulties were encountered for the diagnosis in most of the patient. The sedimentation rate is generally elevated. The group agglutination antibody titres were over 1/320 (9). In broad series, %96 of the cases are seropositive (9). But our case was seronegative. The exact diagnostic method is taking blood cultures.

Especially in non-hospitalized patients, it should be emphasized that seronegativity doesn't exclude the diagnosis and positive blood cultures together with the echocardiographic findings are the most important criter for exact diagnosis.

It is widely accepted that the combination of medical and surgical methods are generally necessary for the succesful treatment of brucella endocarditis (4,10). Succesful treatment without surgery is quite rare (11,12). It's advised treatment using streptomycine with tetracyclin, rifampicin or doxycyclin should be continued at least 6 weeks (9). But we added ciprofloxacin, which is known most effective antibiotic on *B.Melitensis*, to as the tetracyclin and rifampicin and we continued this therapy for 8 weeks (13).

In cases with no congestive heart failure, having no prosthetic valve, mild cardiac involvement and for short period of time, therapy with antibiotics can be used (11).

In our case the history of infective pathology covered a reluctantly short period of time and

the signs of the infective pathology disappeared completely in the end of first month of the antibiotic treatment but the patient required a valve surgery for the severity of stenotic mitral valve and for the embolic potential of the residual vegetation.

Brucella endocarditis must be suspected in such cases with chills, fever, night sweats and dyspnea and having cardiac murmurs on the physical examination.

Although %96 of the brucellosis are seropositive, as in our case, it must be remembered that they can be seronegative and because of this, patients with the signs of infection but serological negative, blood cultures must be taken. On patients diagnosed as brucella endocarditis, antibiotic therapy must be started rapidly and when the patient reaches stable clinical conditions, surgical therapy must planned (14).

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