

A Rare Case of Perivalvular Mitral Abscess in A Patient With Infective Endocarditis Managed Medically.

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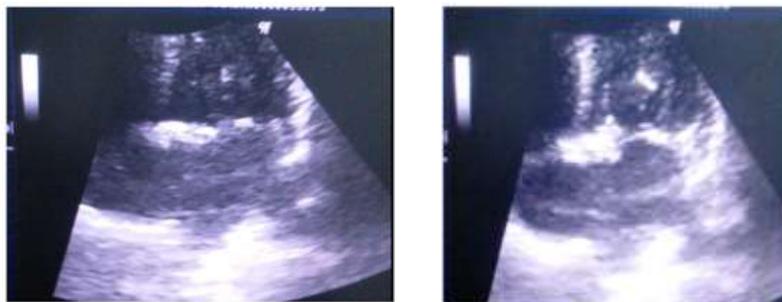
Abstract: Most Cases Of Myocardial Abscess Occur In The Setting Of Infective Endocarditis. When Symptoms And Signs Of Infective Endocarditis Persist Or Worsen, Myocardial Abscess Must Be Considered And Echocardiographic Imaging With A Close Look At Vegetations Must Be Performed Especially In Patients Who Have Longstanding Persistent Bacteremia And Who Do Not Respond To Antibiotic Therapy.

Keywords: Perivalvular Mitral Abscess Infective Endocarditis Transthoracic Echocardiography

Key messages: Physicians Must Maintain A High Index Of Suspicion To Diagnose Patients Who Have Myocardial Abscess.

I. Case History

A 42-Year-Old Female Presented To The Emergency Room Semi-Conscious With Fever, And Weight Loss,. Her Physical Examination Revealed A Body Temperature Of 38.8 °C, An Apical Third Heart Sound, A Grade 2/6 Pansystolic Murmur On The Apex, And Cutaneous Embolic Phenomena Circulating Blood Cells Showed A Hemoglobin Of 9 Gm/Dl , And A Haematocrit Of 28%. Her White Blood Cells Were 12 200 Cells/Cu.Mm With A Left Shift On The Differential Count. Erythrocyte Sedimentation Rate Was 75 Mm/H. Her ECG And Chest X-Ray Were Normal. Blood Cultures Were Drawn. Her Echocardiogram Revealed A 1.7 X 2.7 Cm Mobile Vegetation And A Prolapsed Of The Anterior Mitral Valve Leaflet Into The Left Atrium. Three Of Four Blood Cultures Grew Methicillin Resistant Staphylo-Coccus Aureus (MRSA).Patient Was Started On Intravenous Antibiotics From The Time Of Admission Soon After Obtaining Blood Samples For Blood Culture. Inj. Vancomycin 30 Mg/Kg Per 24 Hours IV In Two Divided Doses Was Started Soon After Blood Culture Reports Were Available With A Plan To Continue For 6 Weeks. On The 12th Day Of Admission, There Was No Cessation Of Fever Inspite Of Continued Administration Of Appropriate Intravenous Antibiotics. A Echocardiogram Revealed A Lesion Compatible With An Abscess On The Anterior Mitral Valve Leaflet. (Fig. 1 And 2) With Grade 2-3/4 Mitral Insufficiency .



Figures 1And 2: Show Echolucent Areas Within The Vegetations Suggestive Of Cavitation On The Anterior Mitral Leaflet Indicative Of Perivalvular Abscess.

Patient Was Offered Surgery But She Refused And Preferred To Continue With Medical Management. Three Weeks After Admission Her Fever Ceased And Symptoms Improved, And On The 27th Day Of Admission The Patient Left Hospital And Preferred To Continue Intravenous Antibiotics At A Nearby Medical Facility For The Subsequent Remaining Period. Patient Was Followed Up On A Weekly Basis And Repeat Transthoracic Echo At The End Of Twelve Weeks Showed Complete Disappearance Of The Perivalvular Mitral Abscess And Trivial Mitral Regurgitation.

II. Discussion

Infective Endocarditis Is A Microbial Infection Of Intact Or Degenerated Cardiac Valves, The Endothelium Surrounding Congenital Or Acquired Cardiac Defects And The Endothelium Of Vascular Malformations^{1,2}. There Are Few Reported Cases Complicated By An Abscess Of The Cardiac Valve Leaflet³.

Most Cases Of Myocardial Abscess Occur In The Setting Of Infective Endocarditis .Symptoms And Signs Mainly Reflect The Presence Of Infective Endocarditis. The Clinical Features Persist Or Worsen Upon Development Of A Complicating Myocardial Abscess. Myocardial Abscess Must Be Considered In Patients Who Have Longstanding Persistent Bacteremia And Who Do Not Respond To Antibiotic Therapy. Persistence Of Symptoms That May Raise The Suspicion Of Myocardial Abscess Are Fever (80%85% Of Patients), And Worsening Congestive Heart Failure . Fever May Be Absent In Some Patients Who Are Elderly; Those Who Have CHF, Severe Debility, Or Chronic Renal Failure; And In Patients With Coagulase Negative Staphylococcal Infection And Abscess. Another Characteristic Symptom Is Chills, Which Occurs In 42%75% Of Cases. Physical Examination Findings Commonly Encountered In Myocardial Abscess Are Mainly Due To The Underlying Infective Endocarditis And Include The Following: Fever, Tachycardia, Murmur, Especially Changing Or New Murmur, Neurological Abnormalities, Embolic Event, Splenomegaly, Clubbing, Peripheral Manifestations, Osler Nodes, Splinter Hemorrhages, Petechiae, Janeway Lesions, Retinal Lesions (Roth Spots), Widening Pulse Pressure, Especially With Involvement Of The Aortic Valve And Progression Of Aortic Regurgitation. Myocardial Abscess May Be Associated With Endocarditis- Native Valve Endocarditis, Prosthetic Valve Endocarditis- Bioprosthesis, Or Mechanical Prosthesis, Myocardial (Muscle) Infection Of Ventricular Septal Wall, Or Left Ventricular Posterior Wall. Myocardial Abscess May Be Associated With Septicemia Due To Bronchopneumonias, Genitourinary Infections, And Other Infections. The Pathological Definition Of A Paravalvular Abscess Is A Region Of Necrosis With Purulent Material That Does Not Communicate With A Cardiac Chamber Or Great Vessel Lumen⁴. The Echocardiographic Definition Of Abscess Is A Localized Abnormal Echolucent Area Within The Perivalvular Tissue That Does Not Communicate With The Circulation. As The Perivalvular Abscess Evolves, Other Features Become Evident. Echolucent Space Develops Indicative Of Cavitation And Communication With Contiguous Structures⁵. The Presence Of Periannular Complications Of Infective Endocarditis Has Implications For The Prognosis And May Be An Indication For Surgical Management, Although Most Patients With Periannular Complications Who Have Surgery Do So For Clinical Indications Such As Persistent Infection Or Heart Failure Due To Dysfunction Of The Infected Valve. Patients With Periannular Abscess Have A High Mortality Whether Or Not They Undergo Surgery^{6,7,8}. While TTE Is Specific For Diagnosing Abscess, A Wide Range Of Sensitivities Have Been Reported. This Wide Range In Sensitivity For TTE In Detecting Abscess Likely Reflects The Highly Variable Pretest Probability Of Abscess In Patients Making Up The Populations Studied. The Sensitivity Of TTE In Detecting Abscess Remains Limited Even With Harmonic Imaging. If Abscess Is Suspected Clinically And Not Identified On TTE, Then A TEE Should Be Performed⁹. Normal Structures And Conditions Involving The Atrioventricular Groove That May Mimic Mitral Annular Abscess Are Loculated Pericardial Effusion, Prominent Epicardial Fat, Descending Thoracic Aorta, Dilated Coronary Sinus, Shadowing From Mitral Annular Calcification, And Dilated Left Circumflex Coronary Artery¹⁰..The Authors Report A Case Of Perivalvular Mitral Abscess Diagnosed By Transthoracic Echocardiography,And Managed Medically With Intravenous Antibiotics With Good Outcome.

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