

9. GUIDELINES MAIN RECOMMENDATION: PATIENT CENTERED DECISION OF ENDOCARDITIS TEAM

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69 years old male patient presented with complaints of weakness, palpitation, dyspnea, chilling and fever 38.7 for two days. His past medical history included 12-14 years of hypertension, Ischemic stroke in 2017, DM2, Post MI with coronary stenting and severe HFrEF and number of hospitalizations due to AHF attacks and community acquired pneumonia. Last year, when HF signs/symptoms became well-marked, BP became normal (110-115/70-65 mmHg). App. 1 month before this hospitalization due to Ischemic cardiomyopathy with low ejection fraction (22-26%) intracardiac cardioverter/defibrillator was implanted.

On admission the blood test showed an elevated white blood cell (WBC) count of $11.77(\text{NR} - 4-10) \times 10^3/\mu\text{L}$ with neutrophilia 87,4(NR 50-70) % and Lymphopenia 6.4(NR 25-40) %, C-reactive protein (CRP) as an inflammatory marker increases at the level of 55.06 mg/dl. PCT quantitative 0.662(NR < 0.5) ng/ml. Blood cultures were taken given the febrile syndrome and symptoms, due to the suspicion of endocarditis. A transthoracic echocardiogram was performed, showed an image suggestive of a vegetations on intracardially implanted device electrode, severe secondary regurgitation on mitral and tricuspid hole, mitral valve annulus and subvalvular apparatus with fibrotic changes. The evaluation was completed with a transesophageal echocardiogram with consistent findings ([figure1](#)). Infectiologist and Cardiac Surgeon consultation were performed. Urinalysis revealed a normal urine test.

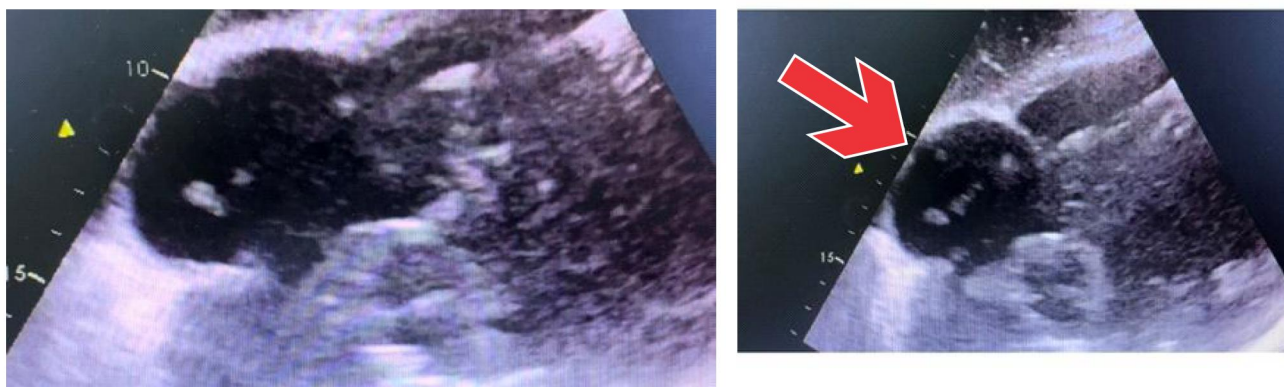


Figure 1.

The main diagnostic suspicion was Infective endocarditis affecting cardiac implantable electronic devices. Fever is one of the most common symptoms of IE (>90% of cases). In this case patient with fever and structural abnormality of heart valves was considered for acute IE. Negative answer for blood culture in our opinion was partly due recently provided antibiotic therapy. We diagnosed the patient with definite IE and, together with HF medications, antibacterial and anticoagulative treatment was started with vancomycin (1 g BID intravenously) ceftriaxone (2 g BID intravenously) and Warfarin tabs, 5 mg daily. We consider, that the role of ACT in the prevention of embolism is limited in IE patients undergoing antibiotic therapy, although it seems to reduce the embolic potential of septic vegetations before antibiotic treatment is started. Taking into consideration his previous stroke, we decided to use Warfarin[2].

Of course, the main decision in this case, according to guidelines [1], might be the removal of infected device. After hours of joint discussion of different subspecialists: cardiologist, cardiac surgeon, anaesthesiologist, infectiologist, we took a decision to try conservative treatment, because: As it was mentioned above, the patient has many comorbidities, his EF is 20-24% and he has DM2, two years before he suffered with ischemic stroke, so he was a very high risk patient. To left such person for a not very short while defendless against sudden cardiac death risk and adding both manipulation - device extraction and later implementation complication – risk was very dangerous and our Endocarditis team performed really patient centered decision - to use only conservative treatment.

Within twelve days of antibiotic therapy the fever subsided. During the following days, the inflammation markers improved (CRP 31,55 mg/dL and PCT quantitative < 0.05 ng/ml.) Tolerance to physical effort was improved. Recurrent transthoracic echo was performed, were no vegetations were found on Implanted device electrode (figure 2). The patient was discharged together with other drugs on antibiotics (vancomycin 1 g BID intravenous infusions and Ceftriaxone 1 g BID intramuscular injections for 4 weeks).

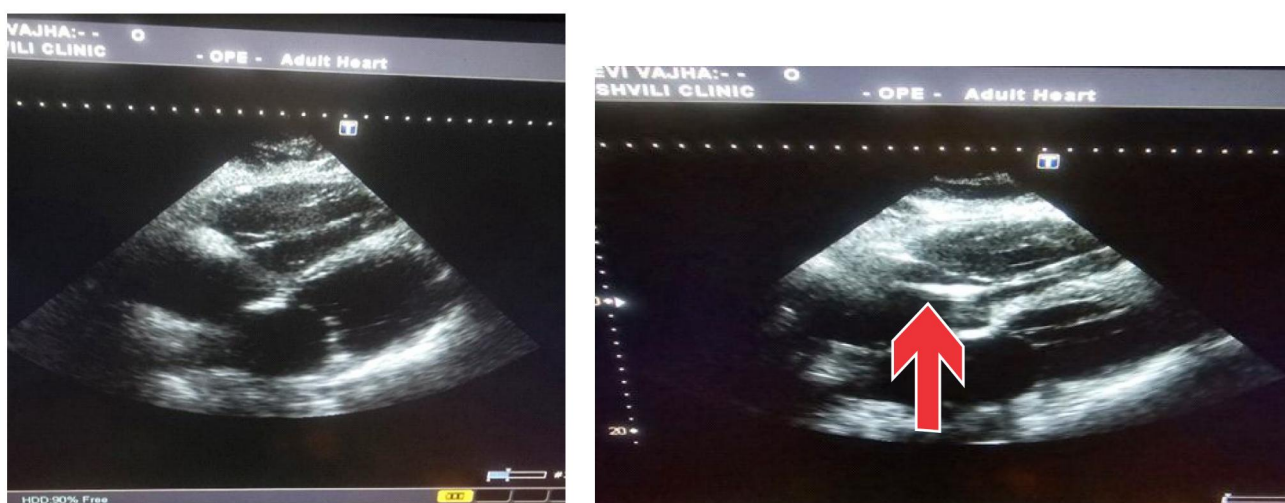


Figure 2

In 1 month his general condition was satisfactory. No serious complaints, axillae temperature was 36.6° C, In FBC no inflammatory markers were revealed [WBC count of 6.3(NR - 4 – 10) x10³/μL with neutrophils 52.3(NR 50-70) % and Lymphocytes 28.1(NR 25-40) %]. He is well today and is under his outpatient department cardiologist observation.

References:

1. 2023 ESC Guidelines for the management of endocarditis: Developed by the task force on the management of endocarditis of the European Society of Cardiology (ESC) Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS) and the European Association of Nuclear Medicine (EANM) *European Heart Journal*, Volume 44, Issue 39, 14 October 2023, Pages 3948–4042.
2. Initiation of warfarin is associated with decreased mortality in patients with infective endocarditis: A population-based cohort study Teddy Tai Loy Lee, BPharm, Sunny Ching Long Chan, MStat, Oscar Hou In Chou, MSc, Sharen Lee, MBChB, Jeffrey Shi Kai Chan, MBChB MPH, Tong Liu, MD PhD, Carlin Chang, MBChB MPhil, Wing Tak Wong, PhD, Gregory Y.H. Lip, MD, Bernard Man Yung Cheung, Abraham Ka-Chung Wai, Gary Tse, MD PhD, <https://doi.org/10.1016/j.thromres.2023.11.009>.