

Sub-obliteration of mitral orifice due to infective endocarditis: the role of echocardiography from diagnosis to individualized treatment

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Argomento: Caso clinico

A 51-year-old woman with history of multiple surgical interventions for fistulizing Chron's disease and Groshong catheter was admitted to medical ward for severe hypotension. Despite fluid replacement (30 ml/kg in 1 hour) and dopamine infusion the patient remained hypotensive (BP 60/53/40 mmHg), anuric with worsening metabolic acidosis (pH 7.08, BE - 23.3 mmol/L, lactate 3.2 mmol/L) and altered mental status. We were called and focused cardiac ultrasound showed biventricular preserved systolic function and a mass on mitral valvular apparatus. As clinical suspicion of infective endocarditis, blood cultures were collected, empiric antibacterial and antimycotic therapy were started.

Transoesophageal echocardiography (TOE) confirmed the mass (3x3.5cm) on posterior and anterior leaflets with sub-complete obliteration of mitral orifice (medium transvalvular gradient: 41 mmHg) - Figure 1. The patient underwent urgent mitral valve replacement. After few hours of clinical stability, the haemodynamics worsened requiring increasing doses of catecholamines. TOE excluded tamponade and showed dilated and severe hypokinetic right ventricle; coronary artery angiography ruled out coronary disease. Pulmonary artery catheter confirmed cardiogenic shock (CI 1.75 l/min/m², PCWP 19 mmHg, CVP 15 mmHg, SVRI 3024 dyn*s*m²/cm⁵, and PVRI 820 dyn*s*m²/cm⁵). An echocardiographic pacemaker (PM) optimization at the bedside modulating atrio-ventricular delay and heart rate via temporary leads was performed with an increase of 25% of CI and 20% of SBP. Adrenaline was switched to enoximone and vasodilator therapy was added (sodium nitroprusside and inhaled nitric oxide) with rapid improvement in haemodynamics. After 6 days the patient was extubated and discharged to Cardiology Unit. Histopathological analysis of the mass revealed a thrombotic apposition positive for *Staphylococcus cohnii*.

Discussion Echocardiography played a key role in diagnostic work-up of life-threatening infective endocarditis and allowed a bedside titration of PM and medical treatment with an immediate clinical improvement.

Legend: TTE and TOE showing parasternal, 4 chambers and 2 chambers views and transmitral

