



Case Report

Aorto-Cavitary Fistulae Secondary to Streptococcal Endocarditis

M Nadeem Attar^{1*}, Andrew Duncan¹ and David H Roberts¹

Introduction

Multiple aorto-cavitary fistulae formation is a very rare and extremely serious complication of infective endocarditis (IE). We report a case of native aortic valve IE complicated by perivalvular abscess leading to formation of fistulae to the right atrium and right ventricle. It was successfully treated by early cardiac surgery.

Case Report

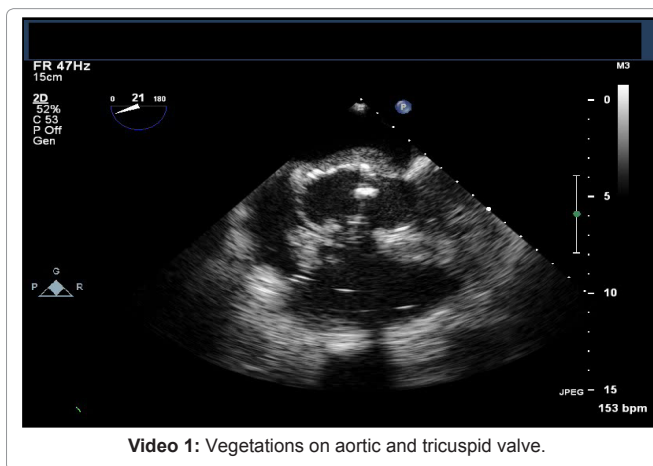
57-year-old man with learning difficulty presented with transient loss of consciousness. He had experienced a similar episode 3 weeks earlier. He recently had been treated by his GP for presumed chest infection. On examination- temperature 39.4°C, pulse-45 beats/min regular and BP-129/62 mm Hg. A pansystolic murmur and an early diastolic murmur were heard with scattered crepitations at lung bases. Investigations: white cell count $16 \times 10^9/l$, CRP-77 mg/l, urea-17 mmol/l, creatinine-171 $\mu\text{mol/l}$, INR-1.4. ECG showed complete heart block.

Next day, he deteriorated with worsening dyspnoea and developed metabolic acidosis with PH-7.1 and lactate -16 mmol/l. CXR showed pulmonary oedema. Heart rate dropped to 22 beats/min with complete heart block and he required temporary pacing. Three sets of blood cultures grew streptococcus viridians sensitive to amoxicillin, clindamycin, penicillin and ceftriaxone. Transthoracic echocardiogram showed severe AR, severe TR and was suspicious of aortic valve endocarditis.

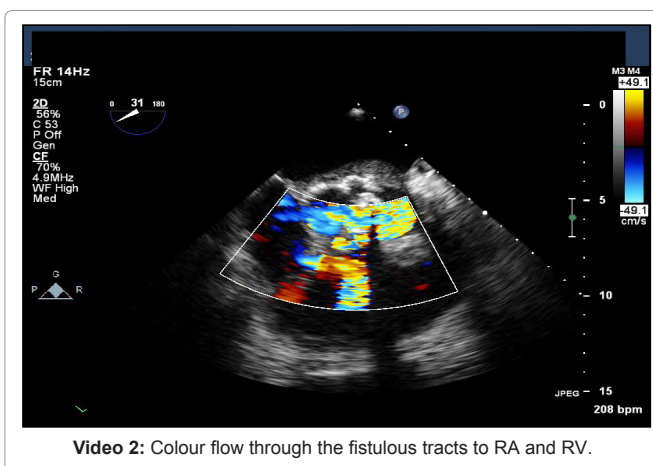
He was stabilised with inotropes and commenced on ceftriaxone. TOE done showed vegetations on aortic & tricuspid valves, and an aortic root abscess with fistulae communicating to both the right atrium and the right ventricle (Videos 1, 2 and 3). Coronary angiogram showed normal coronaries. At operation erosion of the non-coronary aortic cusp was noted and both fistulae were identified. Aortic valve replacement with Sorin Tophat 27 Mechanical Aortic prosthesis, Tricuspid valve replacement with St Jude Epic 33 Mitral bioprosthesis in the tricuspid position along with closure of both fistulae with bovine pericardial patch was successfully performed. Excised aortic valve and septal abscess yielded vegetations with bacterial colonies consistent with acute bacterial endocarditis. DDD permanent pacemaker was implanted postoperatively. Patient made slow recovery and was discharged home.

*Corresponding author: M Nadeem Attar, 28, St. Francis Close, Preston, Lancashire, PR2 9WJ, UK, Tel: 00447981 925 483, 0044 1772716222; Fax: 00441772522948; E-mail: nadattar@hotmail.com

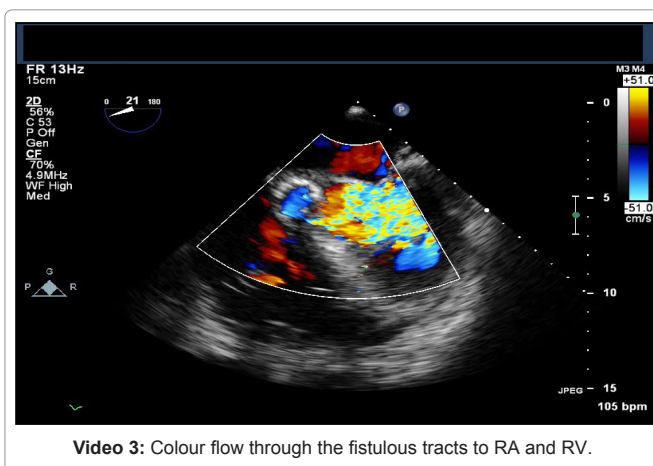
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Video 1: Vegetations on aortic and tricuspid valve.



Video 2: Colour flow through the fistulous tracts to RA and RV.



Video 3: Colour flow through the fistulous tracts to RA and RV.

Discussion

Multiple aortocavitary fistulae are associated with a very high mortality and occur in less than 1 in 500 IE cases [1]. The junctional

zone between the mitral and aortic valve annulus, also known as “mitral–aortic intervalvular fibrosa,” is relatively avascular offering little resistance to direct spread of infection resulting in abscess, aneurysm and/or fistula formation [2]. Early surgery in conjunction with supportive treatment and appropriate antibiotics is mandatory in these cases. Early surgery led to slow but complete recovery with normalisation of inflammatory markers and renal function in our patient.

References


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Author Affiliation

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¹Department of Cardiology, Lancashire Cardiac Centre, Blackpool Victoria Hospital, Blackpool, Lancashire, FY3 8NR, UK

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