Multiple aorto-right cavitory fistula: a rare complication of prosthetic valvular endocarditis in intravenous drug users

Sergio Moral*, Jaime Aboal, and Manel Morales

Hospital Universitario Doctor Josep Trueta, Avda Franca s/n, 17007 Girona, Spain

Received 30 September 2008; accepted after revision 7 October 2008; online publish-ahead-of-print 7 January 2009

Aorto-cavitary fistula is an infrequent complication in infective endocarditis as well as multiple fistula, being the most rare among intracardiac fistulas. The prognosis of infective endocarditis worsens if there are fistulas associated, exceeding the mortality over 40% despite aggressive surgical treatment. Although transoesophageal echocardiography offers a better sensitivity and specificity, sometimes transthoracic echocardiography is enough to obtain these infrequent pictures that we present.

KEYWORDS
Aorto-cavitary fistula; Infective endocarditis; Intravenous drug user

A 27-year-old woman, i.v. drug user, was admitted 3 months ago with the diagnosis of Staphylococcus aureus aortic valve endocarditis: a valve replacement and an aortic root homograft were performed. She comes to our hospital because of dyspnoea, fever, and anasarca. Transthoracic echocardiography (TTE) is performed, showing vegetation-suggestive images on the prosthetic aortic valve, surrounded by multiple absceses, massive aortic's regurgitation and a double fistula connecting the aortic root with the right atrium and ventricle (Figure 1).

Aorto-cavitary fistula is an uncommon complication as well as multiple fistula.1,2 In patients with the diagnosis of infective endocarditis (IE), only 0.4% of i.v. drug users present this complication, and less than 1 of 500 IE shows a multiple fistula, being the most rare among intracardiac fistulas.1

The prognosis of IE worsens if there are fistulas associated, exceeding the mortality over 40% despite aggressive surgical treatment.1,3 Heart failure, prosthetic IE, and urgent surgical treatment are identified as variables with increased risk of death.1

Transoesophageal echocardiography offers a better sensitivity and specificity than TTE, detecting nearly 100% of the patients with this complication in comparison with less of 60% of those by TTE.1 But sometimes TTE, as in our case, is enough to obtain these infrequent pictures that we present.4

References

* Corresponding author. Tel: + 34 972 940 200; fax: + 34 972 940 270. E-mail address: moral.sergio@yahoo.es

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Figure 1  (A, B and C) Parasternal approach. (A) Long-axis plane: a big vegetation attached to the prosthetic valve (arrows) and an abscess in the right coronary sinus (asterisk). (B and C) Short-axis plane: abscesses in right coronary and non-coronary sinus (asterisks), and the flow of both shunts towards right cavities (arrows). (D) Apical approach/five-chamber plane: two fistular orifices between aortic root and right cavities (arrows). LA, left atrium; RA, right atrium; LV, left ventricle; RV, right ventricle; Ao, aorta; RVOT, right ventricular outflow tract.