Aorta-Right Ventricle Fistula. An Unexpected Complication of Bacterial Endocarditis

Gustavo Carvalho, Reinaldo B. Bestetti, Moacir Godoy, Patrícia Cury, Antônio C. Leme Neto
Hospital de Base – Faculdade de Medicina de São José do Rio Preto - São José do Rio Preto, SP - Brazil

A 22-year-old white man, admitted with a dry cough complaint, dyspnea to effort, palpitations and daily fever, with a two-month evolution. Patient of congenital cardiopathy and cataract. His mother had German measles in the second month of pregnancy.

BP = 160/90 mmHg in upper limbs, there were no palpable pulses in lower limbs. Systolic impulse verified in the 5th left paraesternal intercostal space, where a tremor irradiated until the 2nd right paraesternal intercostal space. A rude mesotelesystolic murmur audible in that region, irradiating to cervical, subclavicular and interscapular regions. The diagnostic hypothesis was infectious endocarditis, aortic valvar stenosis and coarctation of the aorta. At electrocardiogram, sinus rhythm and left ventricular overload; the thoracic radiography was normal. At blood count, anemia and leukocytosis were found. He was empirically treated with ceftriaxone 3g day.

At hemoculture, *Streptococcus viridans* was sensitive to the antibiotic used.

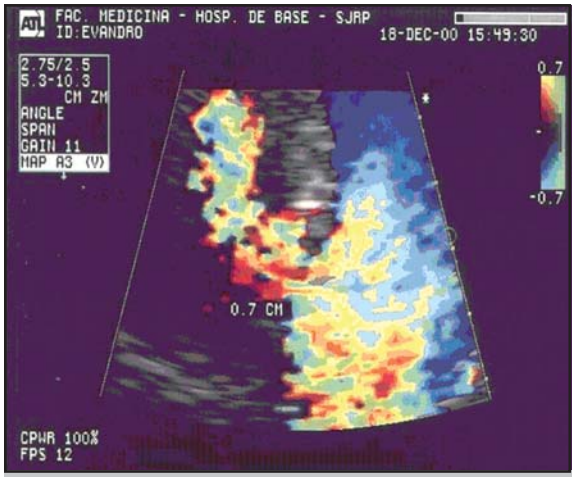

***Fig. 1** - echocardiogram with color flow mapping, demonstrating aorta-right ventricle fistula*

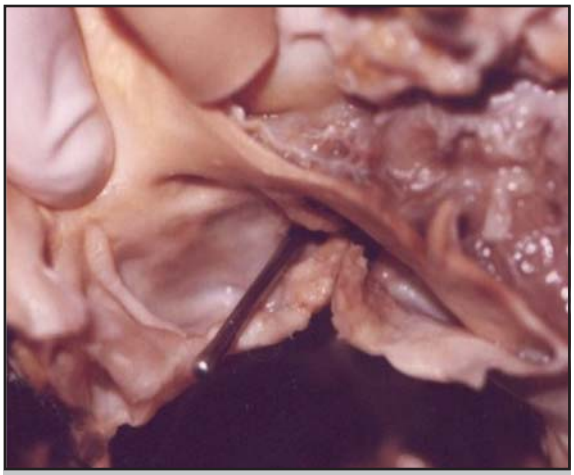

***Fig. 2** - necropsy piece, demonstrating bicuspid aortic valve with vegetations and aorta-right ventricle fistula right below right coronary ostium*

With the treatment, he was afebrile and without complaints. There was a sudden settlement of dyspnea, diaphoresis and cutaneous-mucous paleness. Crepitations were audible in the bases. A new continuous murmur in precordium was diagnosed. Echocardiogram demonstrated an aorta-right ventricle fistula, bicuspid aortic valve with suggestive images of vegetations and coarctation of the aorta (fig. 1). The patient died while waiting for emergency heart surgery.

Necropsy findings was aorta-right ventricle fistula, besides confirming echocardiogram findings (fig. 2 and 3) .

Endocarditis has been currently, especially in developing countries, where rheumatic valvar disease has high prevalence. Besides, it is a feasible complication from congenital cardiopathies[1-3].

A rude murmur in the 2nd right intercostal paraesternal space, with irradiations to cervical, left subclavicular and interscapular regions, makes us suspect aortic stenosis, associated to a possible coarctation of the aorta, which was clinically confirmed by the absence of pulses in lower

Mailing Address: Gustavo Carvalho • Rua T 36, 3857 Ed. Monte Sinai ap. 704B – Setor Bueno - 74223-050 – Goiânia, GO - Brazil
E-mail: gustavocarvalho@cardiol.br
Received on 03/31/05 • Accepted on 04/06/05

limbs. Positive hemocultures, associated to structural cardiopathy with vegetations confirmed through the echocardiogram, diagnosed endocarditis, a hypothesis ratified through necropsy findings.

In infectious endocarditis, the recognition of a new murmur in left paraesternal region, associated to acute heart failure, suggests the diagnosis of a severe mechanical complication, which needs to be confirmed through an imaging method, such as echocardiogram or cardiac catheterization.

Aorta-right ventricle fistula in endocarditis is a challenge and should be researched in the clinical deterioration of that pathology, recognized and treated under emergency nature. A new continuous murmur indicates such condition. Even with a fast surgical recognition, in most times, we could not change the fatal outcome of this case.

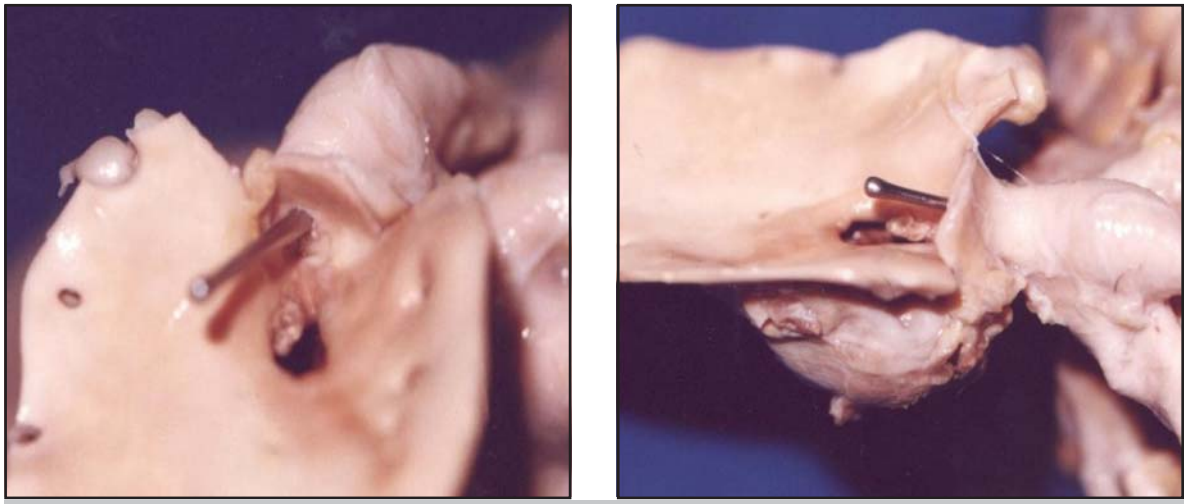

Fig. 3 *- necropsy pieces, demonstrating the coarctation of the aorta with a pseudo-aneurysm in its distal portion and vegetation in its rim*

References

1. Karchmer AW. In: Braunwald E, editor. Heart Disease – A Textbook of Cardiovascular Medicine. Philadelphia: Saunders. 1997: 1077-1104.
2. Ramos MC. Bacterial endocarditis: pathogenesis. Rev Soc Cardiol Est São Paulo 1995; 4: 371-5.
3. Steckelberg D. Endocarditis: Changing trends in epidemiology, clinical and microbiological spectrum. Postgrad Med 1993; 93: 235-8.