Percutaneous Closure of a Large Coronary Fistula

JOSÉ DIOGO FERREIRA MARTINS[1], LÍDIA DE SOUSA[2], PEDRO MATOS[3], FÁTIMA FERREIRA PINTO[1]

Serviço de Cardiologia Pediátrica, Hospital de Santa Marta, Lisboa, Portugal
Serviço de Cardiologia, Hospital de Santa Marta, Lisboa, Portugal
Serviço de Cardiologia, Hospital CUF Infante Santo, Lisboa, Portugal

Rev Port Cardiol 2009; 28 (9): 1017-1020

Key words
Coronary artery fistulae;
Interventional catheterization

Oclusão percutânea de Fistula Coronária Grande

Palavras-Chave
Fistula coronária;
Oclusão percutânea

A 16-year-old patient, female, diagnosed with a coronary artery fistula, was followed in the outpatient clinic since the first year of life.

After referral for a murmur, the initial clinical and echocardiographic evaluation was of a right coronary artery fistula. At two years of age, cardiac catheterization showed a small fistula arising from the right coronary artery, near the origin of the sinus node artery, ending in the right atrium, not causing a significant shunt or dilation of the normal right coronary artery. A conservative approach was therefore adopted.

At seven years of age, myocardial perfusion scintigraphy was normal.

The patient remained asymptomatic until 16 years of age, when she experienced two syncopal episodes in the context of physical exertion. A non-invasive anatomical study was therefore performed with a 64-slice CT scan with three-dimensional reconstruction, which showed a fistula originating immediately after the take-off of the right coronary artery, taking a posterior, inferior and rightward course, and ending with a partially thrombosed saccular dilation in the right atrium. The right coronary artery distal to the fistula was normal (*Fig. 1A and B*).

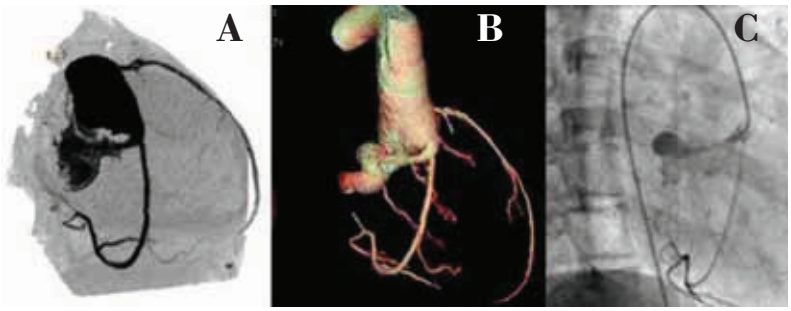

Figure 1. Right anterior 60º cranial, 20º maximum intensity projections (MIP) of the CT scan (A), three-dimensional reconstruction (B) and angiography (C) showing the course and saccular dilation of the fistula.

Recebido para publicação: Dezembro de 2008 • Aceite para publicação: Junho de 2009
Received for publication: December 2008 • Accepted for publication: June 2009

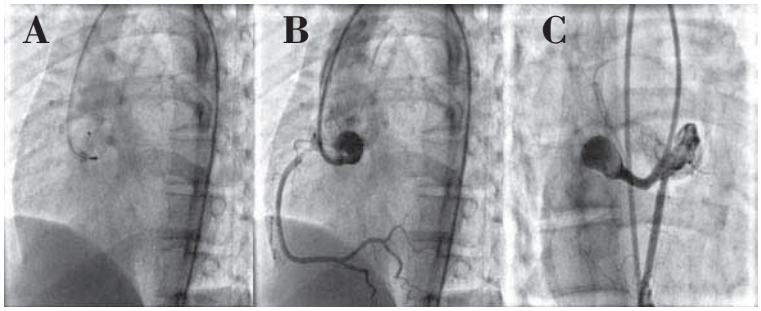

Figure 2.

The patient was catheterized, the angiographies confirmed the non-invasive findings (Fig. 1C), and the exam proceeded to interventional catheterization (Fig. 2A and B). The largest diameter of the saccular dilation measured 9 mm and a 12 mm Amplatzer Vascular Plug® was implanted at that, site. After device release, there was near complete fistula occlusion, with mild residual flow through the device (Fig. 2C). The intervention had no complications, including ECG anomalies. The following day, the patient was discharged home, asymptomatic, with no clinical or echocardiographic evidence of a residual fistula.

Coronary fistula is a rare congenital malformation that consist of a direct vascular connection between a coronary artery and a cardiac chamber or vessel without passing through the capillary system. Its management is controversial, especially in incidental findings of asymptomatic fistulae [1]. However, closure is mandatory for large and/or symptomatic fistulae [2], such as the case presented. In recent years, a percutaneous approach has been preferred, having been deemed possible in most cases and with comparable results to surgery [3].

Pedido de separatas para:

José Diogo Ferreira Martins
Serviço de Cardiologia Pediátrica
Hospital de Santa Marta
1100-069 Lisboa
Portugal
E-mail: jdferreiramartins@gmail.com

BIBLIOGRAFIA / REFERENCES

1. Gowda RM, Vasavada BC, Han IA. Coronary artery fistulas: clinical and therapeutic considerations. Int J Cardiol 2006;107:7-10.

2. Latson LA. Coronary artery fistulas: how to manage them. Catheter Cardiovasc Interv 2007;70:110-6.

3. Armsby LR, Keane JF, Sherwood MC, Forbess JM, Perry SB, Lock JE. Management of coronary artery fistulae. Patient selection and results of transcatheter closure. JACC 2002;39:1026-32