CASE REPORT

Transcatheter closure of right coronary artery fistula to the right ventricle

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Coronary artery fistula (CAF) is an uncommon anomaly that is usually congenital but can be acquired. Although most patients are asymptomatic, some may present with congestive heart failure, infective endocarditis, myocardial ischemia or rupture. In the past, surgical ligation was the only option in the management of CAF, but since 1983, transcatheter closure of CAF has been increasing as an alternative to surgery. We report a 3-year-old boy, presented in Queen Alia Heart Institute, who underwent successful transcatheter closure of a large fistula communicating the distal part of the right coronary artery to the right ventricle. Our case differs from other CAFs in that the fistula was communicating the right coronary artery itself to the right ventricle.

Keywords: Coronary artery fistula, Right ventricle, Vascular plug

Introduction

Coronary artery fistula (CAF) is a direct communication between a coronary artery and a cardiac chamber, great vessels as well as vascular structure [1]. It is a rare disease of coronary arteries, which can cause a significant hemodynamic problems depending on the size, exit chamber and its relationship to the native coronary artery. It occurs in around 0.002% of general population [2].

Around 50% of CAF patients are asymptomatic, picked up with an incidental heart murmur whereas others may present with acute myocardial ischemia, angina pectoris, and infective endocarditis [3].

In this case report, we present a percutaneous closure of right coronary artery fistula to the right ventricle in a 3-year-old male patient.

Case report

The patient was a 3-year-old boy, born at full term, one of identical twins following an uneventful pregnancy and cesarean delivery. He presented in the neonatal period with attack of tachypnea and feeding difficulties with normal

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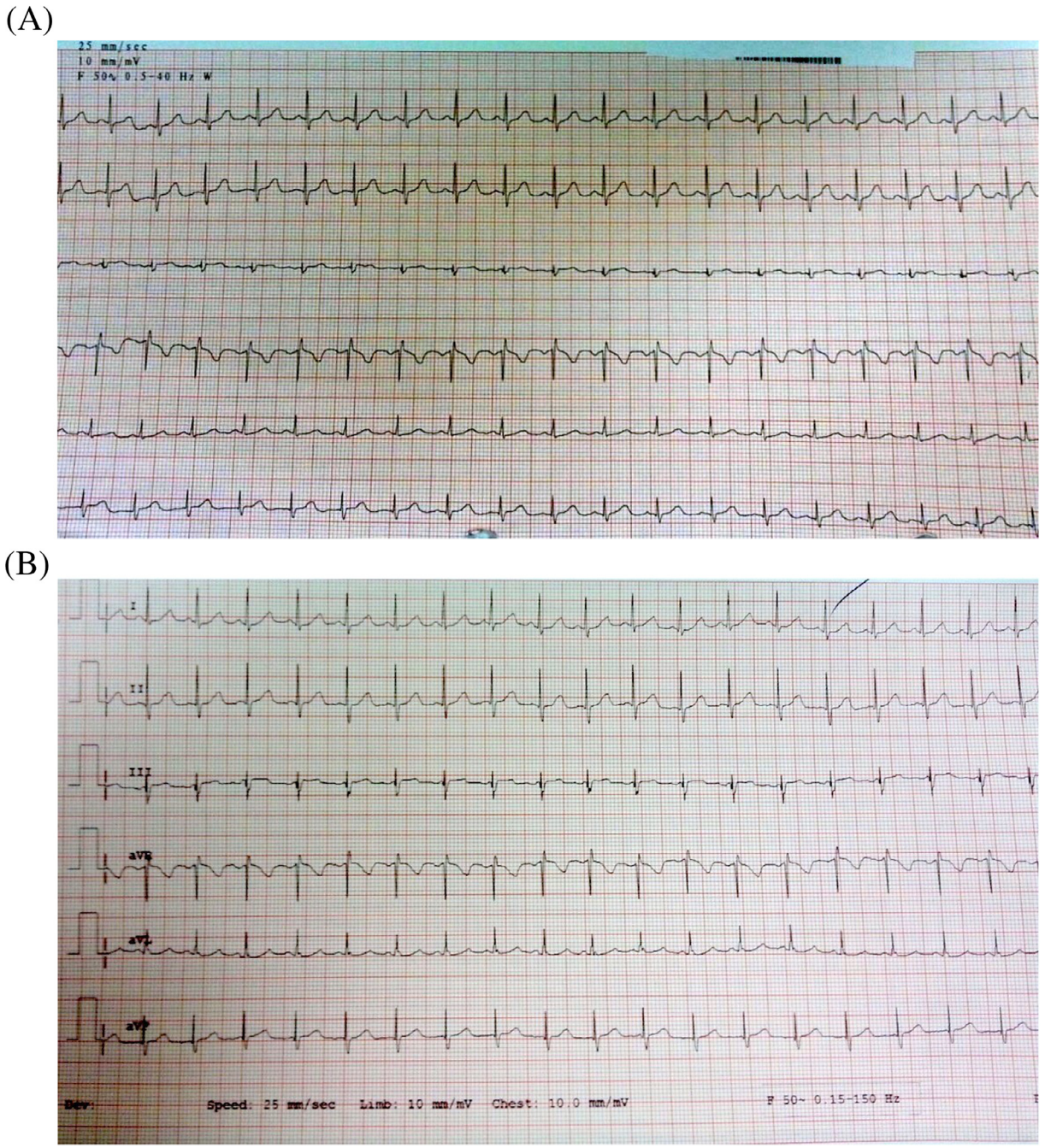

Figure 1. (A). Echocardiography before coronary artery fistula closure. (B) Echocardiography after coronary artery fistula closure, shows no changes in ST and T waves.

O_2 saturation. Cross sectional echocardiogram at the neonatal period showed right coronary artery (RCA) fistula to the right ventricle (RV). The patient was asymptomatic during the regular follow-up until age 3 years; he started complaining of effort intolerance with profuse sweating after minimal activity. Echocardiography (ECG) showed the same CAF with mild dilatation of the right heart. The patient was started on furosemide and planned for cardiac catheter.

On clinical examination, the patient looked well, not in failure, with no visible impulse, and with soft S1 and S2 and continuous murmur grade 3/6, at the third intercostal space. ECG showed sinus tachycardia with no evidence of myocardial ischemia (Figure 1). Coronary arteries computed

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