Complex Cardiac Surgery in a Patient With Dextrocardia and Polysplenia

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Dextrocardia with polysplenia is one of a large spectrum of situs anomalies. In most cases, there are associated cardiovascular abnormalities. We report the case of a patient with dextrocardia, polysplenia, situs ambiguous, and interruption of the inferior vena cava, with an azygos vein continuation. He underwent surgery to replace the aortic valve and the ascending aorta, and to insert a double coronary artery bypass graft.

Key words: Surgery. Aorta. Aortic valve stenosis. Congenital defect.
was uneventful except for the failure of the patient to recover kidney function, a circumstance that made hemodialysis necessary. Two weeks after surgery, the patient, completely recovered, was transferred to a referral hospital to continue treatment for renal failure. At present, the possibility of retransplantation is being considered.

DISCUSSION

Dextrocardia should alert clinicians and surgeons to the possibility of associated cardiac malformations. Magnetic resonance imaging is the technique of choice for the evaluation of anomalous venous return and, in our case, it was definitive for the identification of the vascular malformations that accompany this syndrome. The presence of valve disease and the absence of intracardiac malformations were confirmed by the echocardiogram. Our patient presents a typical case of heterotaxy, or situs ambiguous, in which there is a wide range of organ and cardiac changes. Situs ambiguous associated with polysplenia is also referred to as left isomerism, in which both atria exhibit the characteristics of a left atrium, although, in this case, the appearance of the right atrium was normal. Left isomerism is the rarest of all the subcategories of dextrocardia, and interruption of the inferior vena cava is the most common vascular malformation. Its presence has technical implications for cannulation given that most of the venous return drains into right atrium via a dilated superior vena cava. There are reports concerning cardiac surgery in dextrocardia, but most of them refer to myocardial revascularization, attempted in some cases and performed without cardiopulmonary bypass in others, and in patients with situs inversus. Our case is the first involving situs ambiguous associated with polysplenia in which cardiac procedures were performed (coronary arteries, valve, and aorta). The decision to replace ascending aorta was made upon the observation of a dilated aorta in the context of bicuspid aortic valve stenosis, a condition recently reported in a patient with dextrocardia.

It is highly probable that the renal failure presented by the patient accelerated the calcification of the aortic valve and the progression of coronary atheromatosis.

Distal anastomoses were performed, and the right mammary artery and saphenous vein were used for the left anterior descending coronary artery and right coronary artery, respectively. The patient presented a bicuspid aortic valve which was severely calcified. It was resected and replaced with a mechanical prosthesis. The ascending aorta was dilated (more than 5 cm in diameter) and its wall was thin and friable. Taking into account this dilation and the presence of a bicuspid valve, it was decided to replace the ascending aorta with a 28-mm graft (Hemashield) with which the proximal venous anastomosis was performed (Figure 2). The cardiopulmonary bypass was discontinued without incidents. The postoperative course

REFERENCES