INTRODUCTION

Isolated tricuspid stenosis is an infrequent pathology. Various cases of tricuspid stenosis have been reported after the implantation of an intracavitary pacemaker, in some cases associated with an infectious process (endocarditis) and in others with a mechanical effect.

CLINICAL CASE

A 42-year-old woman diagnosed as symptomatic congenital third-degree atrioventricular block underwent implantation of a permanent DDD pacemaker for symptomatic congenital heart block. The atrial and ventricular leads both had a loop at the level of the tricuspid valve that may have caused endothelial damage and, eventually, tricuspid stenosis.

Key words: Pacemaker. Tricuspid stenosis.

DISCUSSION

The development of tricuspid stenosis in pacemaker carriers is uncommon. Two possible mechanisms have been suggested: infectious (endocarditis) and mechanical, as a result of the endothelial lesion that the electrode produces in the valve. Various authors have reported that stenosis can occur as a result of leaflet perforation or the mechanical effect of the electrode loop against the valve. This was later confirmed in an
Four cases of tricuspid stenosis associated with right-side endocarditis have been reported in the literature.\(^5\)\(^-\)\(^8\) Endocarditis related with the pacemaker electrode can persist subclinically for a long time despite antibiotic treatment, and there is consensus regarding the need to remove foreign bodies, even when medical treatment initially seems effective.\(^9\)\(^,\)\(^10\)

In this case (Figure 1A) both the atrial and ventricular electrodes form a loop on the plane of the tricuspid valve and can trigger stenosis, since findings of anatomopathological study of 8 hearts after the implantation of an automatic defibrillator.\(^4\)

Fig. 1A. Lateral chest radiograph one year after implantation of the first pacemaker. Observe the loop formed by the atrial and ventricular electrodes on the tricuspid plane.

Fig. 1B. Lateral chest radiograph after implantation of the new system.

Fig. 2A. 2D echocardiogram, 4-chamber view. Right atrial dilatation and valvular thickening are observed.

Fig. 2B. Doppler ultrasound of the tricuspid valve with a mean gradient of 9.9 mm Hg.
endocarditis never existed. As López-Gil et al\textsuperscript{11} indicate, adequate proximal fixation of the electrode can prevent the formation of loops, and early correction can avoid damage to the tricuspid valve. Medical treatment was indicated since there were no finding of endocarditis and the patient had an excellent functional class. It is important to note that the appearance of clinical manifestations suggestive of right heart failure in any patient with a pacemaker should suggest the possibility of tricuspid stenosis. Any redundant intracavitary electrode that presents a loop in the tricuspid valve, or shows signs of infection (in some cases the loop itself may predispose to infection), can give rise to tricuspid stenosis.

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REFERENCES