Localized constrictive pericarditis causing apical pseudo-ballooning

Péricardite constrictive localisée à l’origine d’une pseudo-ballonisation apicale (pseudo-Tako-Tsubo)

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CP may involve only portions of the pericardium. In such cases, the condition is named ‘localized CP’. Imaging methodologies play an important role in the diagnosis of this condition.

A 55-year-old man with a history of tuberculosis presented with signs of heart failure. Chest X-ray showed pericardial calcifications confirmed on computed tomography (Fig. 1). Echocardiography showed pericardial hyperecogenicity at the mid portion of both left and right ventricular walls and left atrium enlargement (Fig. 2). Contractile dilatation of the apex was present. In M-mode tracing of the mitral valve, there was a steep E–F slope, as for rapid early diastolic filling. Pulsed-wave Doppler showed respiratory variation in transmitial flow: increased early diastolic filling during expiration compared with inspiration.

CMR imaging in the four-chamber plane showed a focally thickened pericardium at the level of the middle right and left ventricles, causing localized ventricular constriction (Fig. 3A). In particular, CMR showed an apical right and left ventricular contractile pseudo-ballooning deformation due to the higher intraventricular filling pressure in areas without pericardial constriction (Fig. 3B and C; Supplementary data, Video 1). As usually seen in constriction, real-time cine magnetic resonance on the interventricular septum with deep breath showed abnormal interventricular coupling.

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Abbreviations: CMR, cardiac magnetic resonance; CP, constrictive pericarditis.

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Figure 1. Chest X-ray (A) and computed tomography scans (B, C and D) showing pericardial calcifications (arrows) with spared ventricular apex (arrowed) and large right-side pleural effusion.

Figure 2. Transthoracic echocardiography: four-chamber view showing pericardial hyperecogenicity (white arrows) at the mid portion of the right (A) and left (B) ventricular walls. RA: right atrium; RV: right ventricle; LA: left atrium; LV: left ventricle.
Localized CP encircling only portions of the ventricles should be considered in the differential diagnosis with other conditions. Multimodality imaging may prove useful in non-invasive diagnosis. CMR may show narrowing of the right ventricle with a straightened interventricular septum, dilated inferior vena cava, pleural effusion, hepatomegaly and ascites.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.acvd.2011.02.005.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.