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Images in Cardiology

Double chamber right ventricle and left ventricle: A rare association

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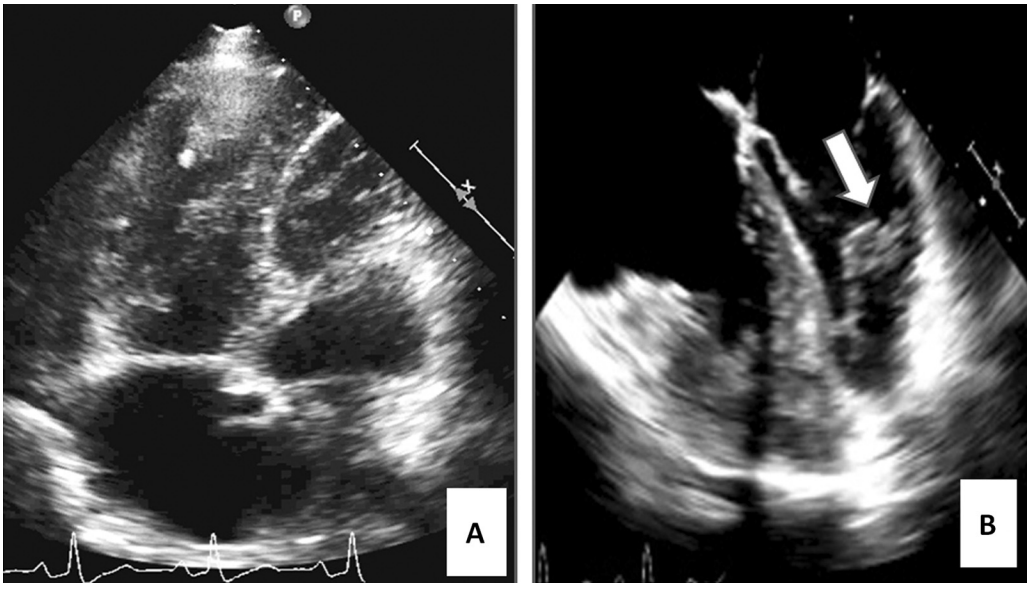

Fig. 1 – Echocardiography images: (A) Trans-thoracic echocardiography in apical 4-chamber view showed a muscle bundle in left ventricle cavity. (B) Trans-esophageal echocardiography in apical 4-chamber view showed muscle bundle (white arrow) in LV cavity.

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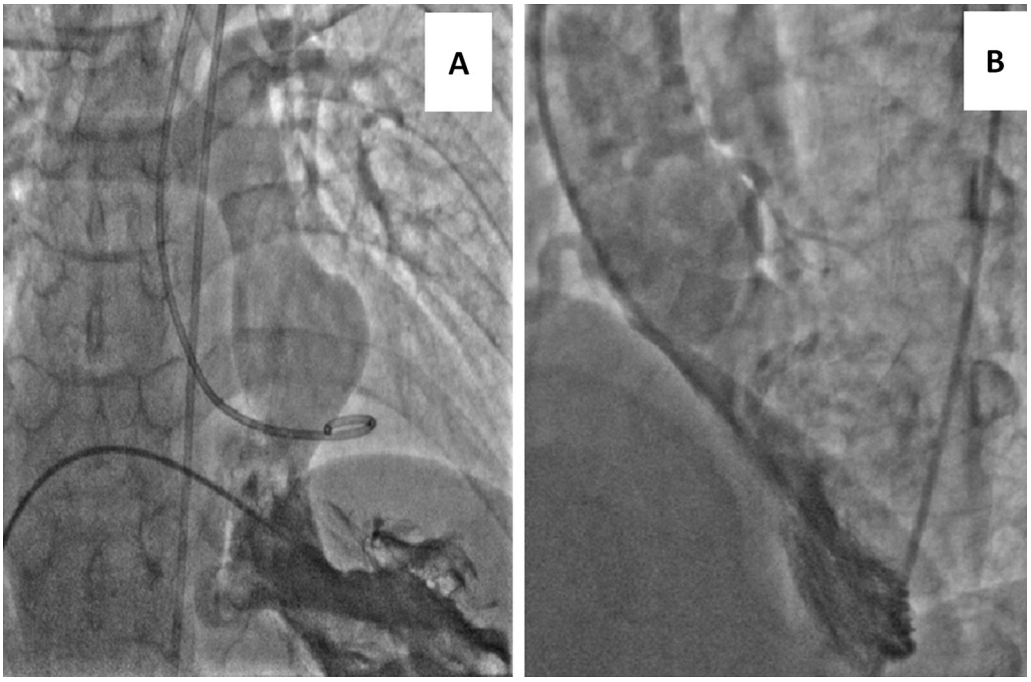

Fig. 2 – Cardiac catheterization images: (A) Right ventriculogram in antero-posterior, 20°-cranial view showed intra-cavity muscle bundle, outflow narrowing and confluent pulmonary artery. (B) Left ventriculogram in 60°-left anterior oblique, 20°-cranial view showed two-chambered left ventricle cavity.

A 54-year-old female presented with symptoms of dyspnea of exertion class II that have lasted for the past 10 years, and which worsened to class III for the past 6 months. Clinical examination revealed an ejection systolic murmur in left second inter-costal space. ECG showed sinus rhythm and right ventricular hypertrophy. Echocardiography revealed a double chambered Right Ventricle (DCRV), having a peak systolic gradient of 120 mmHg across right ventricle outflow tract (RVOT). In addition, there was also a muscle band in left ventricle, which had an insignificant gradient of 4-mmHg across it (Fig. 1A, supplementary video 1). There was no atrial or ventricular septal defect. Trans-esophageal echocardiography confirmed DCRV and double chamber left ventricle (DCLV) (Fig 1B, supplementary video 2). Cardiac catheterization revealed DCRV with RVOT peak systolic gradient of 150 mmHg (RV cavity 169/8/50; RV outflow tract 19/6/13; Pulmonary artery 20/8/13 mmHg) (Fig. 2A). A pullback gradient in left ventricle (LV) cavity was of 10-mmHg from apex to outflow tract (Fig. 2B). Patient had uneventful surgical resection of RV muscle bundle.

Double chamber right ventricle and DCLV are well described in the literature.[1,2] A combination of these two in a patient is very rare, and as there is only one similar case report published in English literature.[3] Echocardiography is a good imaging modality to delineate the muscle bundle and its hemodynamic significance. Index case had a successful surgical resection of DCRV.

Conflicts of interest

The authors have none to declare.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.ihj.2015.06.013.

REFERENCES

1. Singh M, Agarwala MK, Grover A, Pathak V, Varma JS. Clinical, echocardiographic, and angiographic profile of patients with double-chambered right ventricle: experience with 48 cases. *Angiology*. 1999;50:223–231.
2. Awad SM, Patel AS, Polimenakos A, Braun R, Abdulla RI. Left ventricular accessory chamber: a case report and review of the literature. *Pediatr Cardiol*. 2009;30:1022–1025.
3. Akdemir R, Balci MM, Ozer C, Karcaaltincaba M, Acikel S. Quadrichambered ventricles. *Cardiol J*. 2010;17:303–305.