

## Multiple heart beats: A unique presentation of cardiac rhabdomyoma

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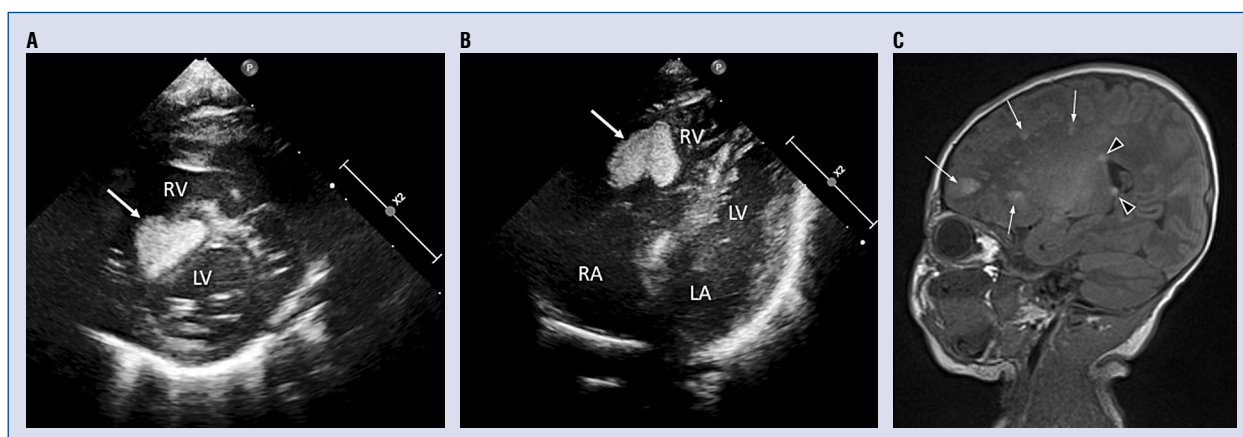
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A male infant was born via vaginal delivery from non-consanguineous and healthy parents. His birth weight and gestational age were 2,947 g and 39 weeks, respectively. Based on fetal echocardiography findings, it was suspected that he had cardiac tumors. After birth, transthoracic echocardiography revealed multiple “heart-shaped” tumors in the right ventricle (Fig. 1A, B, **Suppl. Video 1**). There was no obstruction to ventricular inflow or outflow. The systolic and diastolic function of both ventricles were preserved. Twelve-lead electrocardiogram showed normal sinus rhythm with ST-T segment abnormality. Brain magnetic resonance imaging revealed cortical tubers and subependymal nodules (Fig. 1C). He was subsequently diagnosed as having tuberous sclerosis complex. The cardiac tumors were classified as rhabdomyomas based on the findings of cardiac computed tomography and magnetic resonance imaging. Holter electrocardiography on

day 23 showed a few isolated premature ventricular contractions. The infant was uneventfully discharged from our hospital on day 35. His parents and elder sister were unlikely to have tuberous sclerosis complex according to the clinical diagnostic criteria.

Tuberous sclerosis complex is a multisystem genetic disorder with a highly variable phenotype that may affect several organ systems. At least 50% of newborns with tuberous sclerosis complex have cardiac rhabdomyomas. These lesions typically regress within the first 3 years of life. However, they may obstruct inflow or outflow leading to heart failure or arrhythmia depending on size, location, and number. Recently, the utility of mammalian target of rapamycin inhibitors for treating life-threatening cardiac rhabdomyomas has been reported. Cardiologists should be aware of this potentially life-threatening presentation of tuberous sclerosis complex and management options.

**Conflict of interest:** None declared



**Figure 1.** A, B. Transthoracic echocardiography of the patient; C. Brain magnetic resonance imaging of the patient. Arrows and arrow heads denote cortical tubers and subependymal nodules, respectively; LA — left atrium; LV — left ventricle; RA — right atrium; RV — right ventricle.

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