Various coexisting forms of fetal arrhythmias associated with fetal atrial septal aneurysm

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Premature atrial contractions (PACs) are a common form of cardiac arrhythmia, which are usually benign and associated with good outcomes. We report a fetus with PACs detected in the third trimester and complicated by episodes of fetal bradycardia and sinus tachycardia secondary to an atrial septal aneurysm (ASA) originating in the region of fossa ovalis and extending into the left atrium.

Fetal echocardiography performed at 33 weeks' gestation showed an ASA and recurrent blocked bigeminal PACs causing paradoxical bradycardia of 100-120 bpm. Redundant atrial tissue was seen hitting the left atrial free wall and the mitral valve annulus. The patient was monitored with weekly fetal heart rate assessment. At 36 weeks' gestation, fetal echocardiography showed PACs, intermittent sinus tachycardia of 180-190 bpm, mild tricuspid regurgitation and minimal pericardial effusion. Elective caesarian section was performed at 37 weeks of gestation, and the newborn was in good condition. Neonatal electrocardiography revealed only rare PACs. PACs resolved spontaneously at 2 months of age, when ASA was observed to adhere to the septum secundum.

While PACs are generally known to be benign phenomena, coexisting ASA may complicate the clinical picture and cause more significant forms of fetal cardiac arrhythmias, requiring a closer follow-up.