

Antenatal Fetal bradycardia: Not always equivalent to category 1 caesarean

Objective: Aim of this case report is to raise awareness of antenatal fetal bradycardia due to benign fetal arrhythmias such as premature atrial contractions (PACs) so as to avoid an unwarranted iatrogenic preterm caesarean delivery in otherwise well fetus.

Case Study: This is a case of a low risk 24 years old primigravida, under midwifery led care. Pregnancy was progressing well, till she presented for a routine antenatal visit at 33 weeks and fetal bradycardia was noted with fetal heart rate at 85 bpm. She was assessed promptly and acute causes resulting in fetal bradycardia were ruled out such as cord prolapse or placental abruption.

There was no personal or family history of systemic lupus erythematosus, antiphospholipid syndrome, arrhythmias, sudden cardiac death or pre eclampsia. Growth scan was normal with no evidence of fetal hydrops. She underwent fetal echocardiogram and a diagnosis of PACs was made on M-mode, which resolved by 36 weeks on repeat ECHO. She achieved spontaneous vaginal delivery at term, with birth weight of 3.7 kg. Neonatal 12 lead ECG was normal.

Discussion: Antenatal fetal bradycardia can be due to fetal arrhythmias (1-3% of pregnancies²). Persistent low fetal heart rate can be caused by cardiac conditions such as sinus, low atrial or junctional bradycardia, PACs, long QT syndrome, or atrioventricular block (second or third degree)¹. Most common and mostly benign cause remains PACs which is often self limiting, may present transiently or persist throughout pregnancy and neonatal period . Diagnosis is confirmed with M-mode and pulsed Doppler fetal echocardiography. It is mostly idiopathic however associations with congenital heart disease, fetal tumours, fetal atrial fibrillation or fetal heart block have been reported. It usually resolves spontaneously, although rarely can progress to life threatening supraventricular tachycardia²

Conclusion: Dealing with antenatal fetal bradycardia is a stressful clinical scenario for obstetricians and midwives alike. It is of utmost importance that systematic assessment and evaluation is undertaken along with fetal medicine input in order to avoid an unwarranted emergency delivery of a pre term fetus with resultant maternal and fetal morbidity.

References:

1. Mohd Jalil R, Jaeggi E.T., Friedberg M.K. Diagnosis and Management of Fetal Bradyarrhythmias. Pacing Clin. Electrophysiol. 2008;31:S50–S53.
2. Radzi et al. Fetal Atrial Ectopic Rhythm Detected Using Handheld Doppler. Malays Fam Physician. 2020 Mar 18;15(1):50-53.