Fetal Atrioventricular Heart Block

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CASE DESCRIPTION

As part of routine prenatal care, the obstetrician of a 25-year-old gravida 1, para 0 woman performed fetal heart-rate monitoring at 22 weeks gestational age. The fetal heart rate was 90 bpm, below the expected range of 120–160 bpm. This finding prompted a subsequent fetal ultrasound and echocardiogram.

The ultrasound exam showed no evidence of hydrops. Cardiac anatomy was normal, with 4 appropriately sized chambers, no valvular defects, and no abnormal communications between the right and left circulations. However, the electrocardiogram demonstrated a 2:1 atrioventricular heart block (1 ventricular beat for every 2 atrial beats). Previously, a first-trimester screen to detect fetal aneuploidy had been performed and the results were normal. Results of serologic testing for hepatitis B, varicella, and rubella viruses were consistent with maternal immunity. Results of syphilis and HIV antibody tests were also negative. The expectant mother had no significant medical history, was taking no medications, and had no history or symptoms of autoimmune disease.

Questions to Consider
• What conditions can cause an abnormally slow fetal heart rate?
• What conditions can cause congenital heart block?
• What additional testing should be performed?

Final Publication and Comments

The final published version with discussion and comments from the experts will appear in the September 2014 issue of *Clinical Chemistry*. To view the case and comments online, go to http://www.clinchem.org/content/vol60/issue9 and follow the link to the Clinical Case Study and Commentaries.

Educational Centers

If you are associated with an educational center and would like to receive the cases and questions 1 month in advance of publication, please email clinchem@aacc.org. All previous Clinical Case Studies can be accessed and downloaded online at http://www.aacc.org/publications/clin_chem/casestudies/2014/pages/default.aspx.

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