Ductus Venosus or DV – normal sonogram

Patient Information Series – What you should know, what you should ask.

What is a Ductus Venosus (DV)?

The ductus venosus (DV) is a temporary blood vessel that is part of the fetal blood circulation system and connects two large vessels. This small vessel pushes oxygenated blood from the umbilical vein into the inferior vena cava at its connection to the right upper part of the heart (right atrium).

Why is this vessel assessed?

In the first trimester, the blood flow pattern through the DV is usually assessed as part of a screening test for chromosomal abnormalities such as Down syndrome and trisomy 18 and 13. A screening test for Down syndrome cannot tell for certain whether your baby has Down syndrome; rather, it can tell you whether there is a low or high risk that your baby has this condition.

At the 11-13 weeks scan, abnormal flow in the ductus venosus can also increase the performance of early screening for cardiac defects achieved by measurement of fetal nuchal translucency.

During the second trimester of pregnancy, in fetuses with early onset growth restriction, between 26 to 30 weeks, DV Doppler, especially in combination with the computerized CTG, guides optimal delivery timing.

How is this vessel assessed?

The scan to identify the DV is usually performed transabdominally – this means that the sound waves generated by the ultrasound transducer (probe) pass through the abdominal wall, allowing visualization of your fetus and its internal structures.

There are strict guidelines on how to obtain a DV image in the first trimester of pregnancy. The scan must be performed between 11 weeks and 13 weeks + 6 days of pregnancy when your baby measures between 45 - 84mm in length. To identify the DV a special ultrasound technique named Doppler will be used. A Doppler scan uses harmless sound waves to test and detect the movement of blood in vessels.

Those sound waves are reflected towards the ultrasound probe and a picture of the blood flow is created. This image will allow the sonographer to identify the DV vessel, study its flow, and by interpreting its pattern of flow might indicate if there is a problem.

What other questions should I ask?

- Was the DV measured during my screening test?
- Was the DV wave normal?
- During the scan, was my baby's heart assessed?
- Should I have more tests done?

Last updated December 2022