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Doppler ultrasound in pregnancy reduces risk in high-risk groups

Current evidence suggests that using Doppler ultrasound in high-risk pregnancies to monitor a fetus' health may reduce caesarean sections and the number of babies who die, according to a new Cochrane Systematic Review.

Doppler ultrasound is a well established technique used to diagnose problems during pregnancy. In the same way that a speed radar measures how fast cars are travelling, Doppler ultrasound can monitor how fast blood is moving in the umbilical blood flow. Professionals can then look to see whether the blood flow is normal, indicating that the fetus is healthy, or abnormal, indicating that the fetus is under stress. The health professionals can then decide which high-risk pregnancies need assistance in delivering the baby, and which women can be left to deliver without assistance.

The aim of using Doppler is to reduce risk to the baby. However, some experts argue that it may prompt some unnecessary early interventions.

The review included 18 studies which together included 10,000 women in "high risk" groups. High risk women included those who had previously lost babies during pregnancy, those carrying growth restricted babies and women with hypertension or diabetes. Women who were examined with Doppler ultrasound were compared with those who had no Doppler or with those who had cardiotocography (CTG), which monitors the baby's heartbeat. According to the results, Doppler reduced infant deaths, possibly through better timing of caesarean sections, as well as reducing the number of caesarean sections themselves, and inductions of labour. However, the researchers say the studies included were of questionable quality.

"A case could certainly be made for a higher quality, multi-centre trial of Doppler ultrasound than we have so far seen," said lead researcher Zarko Alfirevic, who is based at the Division of Perinatal and Reproductive Medicine at the University of Liverpool. "It is quite possible that for

some so-called high risk groups fetal Doppler offers little or no benefit. Women with diabetes are one such group where fetal Doppler may, in fact, give false reassurance.

"It is important to point out, of course, that it is the clinical decision that follows a Doppler ultrasound examination that changes the outcome for the baby, and currently there is little agreement on what intervention should follow an abnormal Doppler finding."

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