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Ultrasound in Pregnancy

Written by Pathways Magazine

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Routine prenatal ultrasound (RPU) actually detects only between 17 and 85 percent of the 1 in 50 babies who have major abnormalities at birth. RPU can identify a low-lying placenta (placenta previa). However, 19 of 20 women who have placenta previa detected on an early scan will be needlessly worried: the placenta will effectively move up without causing problems at the birth. Furthermore, detection of placenta previa by RPU has not been found to be safer than detection in labor.

The American College of Obstetricians has concluded that "in a population of women with low-risk pregnancies, neither a reduction in perinatal morbidity and mortality nor a lower rate of unnecessary interventions can be expected from routine diagnostic ultrasound. Thus ultrasound should be performed for specific indications in low-risk pregnancy."

Effects of ultrasound include cavitation, a process wherein the small pockets of gas that exist within mammalian tissue vibrate and then collapse. In this situation "...temperatures of many thousands of degrees Celsius in the gas create a wide range of chemical products, some of which are potentially toxic. These violent processes may be produced by microsecond pulses of the kind which are used in medical diagnosis."


The significance of cavitation in human tissue is unknown.

Studies have suggested that these effects are of real concern in living tissues:
- Cell abnormalities caused by exposure to ultrasound were seen to persist for several generations.
- In newborn rats (similar stage of development as human fetuses at four to five months in utero), ultrasound can damage the myelin that covers nerves.
- Exposing mice to dosages typical of obstetric ultrasound caused a 22% reduction in the rate of cell division and doubling of the rate of apoptosis (programmed cell death), in the cells of the small intestine.
- Two long-term randomized controlled trials comparing exposed and unexposed children's development at eight to nine years old found no measurable effect from ultrasound. However, the authors comment that intensities used today are many times higher than those were in 1979 and 1981.

— Excerpted from "Ultrasound Scans: Cause for Concern"

References available online:
www.spaceship.com