Ultrasound: high-frequency sound waves that travel at 10 to 20 million cycles per second. The pattern of echo waves creates a picture of tissue and bone.

In 1987, UK radiologist H.D. Meire, who had been performing pregnancy scans for 20 years, commented, “The casual observer might be forgiven for wondering why the medical profession is now involved in the wholesale examination of pregnant patients with machines emanating vastly different powers of energy which is not proven to be harmless to obtain information which is not proven to be of any clinical value by operators who are not certified as competent to perform the operations”.
Ultrasound in Pregnancy

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 newborns 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 there were in 1979 and 1981.

Excerpted from
“Ultrasound Scans: Cause for Concern”

References available online:
www.ajpgi.org.com

Ultrasound in Pregnancy

Routine prenatal ultrasound (RPU) actually detects only between 17 and 85 percent of the 1 in 1000 cases of major congenital anomalies, whereas 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 in the solid matrix of living tissue are broken down, creating microsecond pulses of the kind which are potentially toxic. These violent processes may be produced by microsecond pulses of the kind which are used in medical diagnosis.” (American Institute of Ultrasound Medicine Bioeffects Report 1988).

The significance of cavitation in human tissue is unknown.

References:

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