Leukaemia Risk and Ultrasound

Concerns arose in the early 1980s about potential links between ultrasound scans in pregnancy and potential increased risk of childhood leukaemia.

There has been little evidence that in utero diagnostic ultrasound tests are linked with an increased risk of childhood Acute Lymphocytic Leukaemia, ALL (Cartwright 1984, Kinnier 1984, Petridou 1997, Naumburg 2000, Shu XO 1994, 2002), or Acute Non-lymphocytic Leukaemia, ANLL (Van Duijn 1994), although Naumburg found a small increase in risk for ultrasound scans carried out in the second trimester of pregnancy. Dr Razum in Germany did a re-analysis of the Naumburg results and suggested that her data was consistent with the probability that a small proportion of cases of childhood leukaemia might be attributable to prenatal ultrasound exposure. Ultrasound exposure, in vitro, has been shown to cause membrane changes (Dinno MA 1989), and some studies have shown an association between ultrasound exposure and left-handedness (Kieler H 1998, Salvesen 1999, 2002), which could show that foetal development can be affected, possibly in ways that have not been looked at.

Although the risk levels are small and contested, ultrasound scans as a form of “baby TV” should not be routine, but be used for diagnostic or therapeutic use. There is concerning evidence of links between ultrasound scans and autism. The HPA states that there have been some reports suggesting possible neurological effects on the unborn child. The concern is that with souvenir scans the beam of ultrasound stays static over the baby's head for longer in order to get a sharp mug shot.

References:


Petridou E et al 1997 – The risk profile of childhood leukaemia in Greece: a nationwide case-control study Br J Cancer 76:1241-1247


Shu XO et al 2002 - Diagnostic X-rays and ultrasound exposure and risk of childhood acute lymphoblastic leukemia by immunophenotype Cancer Epidemiol Biomarkers Prev 11(2):177-85