

Is ultrasound as useful as we think?

The usefulness of foetal 'nuchal thickness' as a technique for attempting to diagnose Down's syndrome in obstetric ultrasound is overstated and reliance on this surrogate marker may result in the 'loss' of normal babies.

In a recent article published in *Ultrasound*, the *Journal of the British Medical Ultrasound Society* (Vol. 15, Number 3, 2007), Dr Hylton Meire raises the possibility that ultrasound is not as useful as has been suggested. He particularly emphasises the lack of scientific data to support the use of foetal 'nuchal thickness' measurements in routine clinical ultrasound practice to ascertain the presence of Down's syndrome.

The routine use of ultrasound in obstetrics became commonplace in the years before clinicians tried to ensure that all changes in medical practice were supported by scientifically valid research studies.

The nuchal translucency thickness scan is an ultrasound scan performed between 11 and 13+6 weeks of pregnancy, during which the fluid at the back of the baby's neck (the nuchal translucency) is measured. Babies with abnormalities tend to accumulate more fluid at the back of their neck during the first trimester, causing this clear space to be larger than average.

Dr Meire reviews the available scientific evidence in support of the routine use of ultrasound as a screening procedure for pregnant women. He concentrates on the 'routine abnormality scan', typically performed at 18-20 weeks of pregnancy, and assessment of the foetal 'nuchal thickness' performed at 11-13 weeks as a screening procedure for chromosome abnormalities such as Down's syndrome.

Dr Meire concludes that there is no valid data showing any population benefit from the 18-20 week scan and shows that this position has been agreed by many of the world's major medical bodies for many years. Several of these bodies have expressed the need for a large confirmatory study but accept that no such study has yet been performed.

Dr Meire also shows that the value of 'nuchal thickness' measurement has probably been overstated and the technique has not been subjected to valid scientific and statistical scrutiny. Using this technique to try to prevent the births of all cases of the two most common chromosome abnormalities in the UK would lead to the loss of 3200 normal babies every year*.

Source: British Medical Ultrasound Society

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