Re: Helping expectant mothers understand inadequate ultrasound images

Dear Editor,

I read with delight the article by Oates and Taylor ‘Helping expectant mothers understand inadequate ultrasound images’ in the August issue of *Ultrasound*.¹ The authors are to be congratulated on designing: (1) an excellent poster to help mothers, fathers and relatives to understand the obstetric ultrasound image of their unborn child, which may be used by all obstetric ultrasound departments and (2) an audit to evaluate the impact of this perceived service improvement.

The drivers for the poster were the authors’ knowledge of the two main reasons for inadequate obstetric ultrasound images (poor foetal position and the distortion of the ultrasound beam by maternal tissue), their local anecdotal communication with mothers with high body mass index (BMI), work by Phatak and Ramsay² and maternal discussion on ‘mumsnet’.³

The audit tool consisted of a questionnaire with five simple specific questions and one free text question: ‘How did the poster change your thoughts about the scan?’. The response rate for the questionnaire was high, 57 of 66 (86%), so meaningful evaluation was possible.¹ The conclusion shows that the parent’s experience and understanding of the reasons for an inadequate image improved. The authors suggest excellent recommendations for maximum impact to aid service improvement: consider strategic positioning of the poster(s) in the department and include the information in the examination leaflet. The authors’ findings add to the knowledge base and mesh with an article by Boag, ‘Who is really in control of the scan room? The parents or the professional?’.⁴

Oates and Taylor¹ raise a major issue: ‘...if approaching the imaging [of the fetus] from another plane or compressing the [mother’s] skin with the ultrasound transducer has no effect, then a repeat transabdominal scan is not really indicated’. In the 21st century, this in my opinion is not ‘best practice’. The authors highlight the rationale for the inadequate

ultrasound image (poor image quality): ‘it is the type of fat tissue that is the problem...’ and ‘the resultant refraction and scattering’.⁵ Given this, why are trainees still told to ‘press on’ and does this strategy make a difference? The evidence base shows up to 90% of ultrasound practitioners work with a degree of pain, which is attributable to work related upper limb disorder (WRULD). Two main causes are poor ergonomics and compression of patient tissue by the ultrasound transducer.⁶ As we enter the era of undergraduate and postgraduate ultrasound training, ultrasound practitioners have a duty of care to the mother and fellow professionals to deliver service improvements.

In my opinion, a better approach to examining the unborn child, to improve image quality and reduce WRULD is:

- To follow the National Fetal Anomaly Screening Programme guidelines for optimum gestation age to do the mid-trimester fetal anomaly scan: normal maternal BMI (18 + 0 to 20 + 6) and where image quality may be compromised (my words, high maternal BMI) scan to be completed by 23 + 0.⁷
- Use state-of-the-art ultrasound machines with activation of functions such as high frequency transducers, compound imaging, pulse coded excitation, speckle reduction and tissue harmonic imaging.^{8,9}
- Teach tomorrow’s ultrasound practitioners to treat their, and the mother’s, bodies with respect; think ‘STOP compressing the maternal abdomen/pelvis’.

References

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