

The magic of ultrasound



The theme of this year's SASUOG Congress is 'The Magic of Ultrasound'. It is truly magical when the face of the fetus *in utero* can be seen in three dimensions as clearly as a photograph taken of a newborn. Even more dramatic is the real-time motion video of the fetus gyrating, sucking its fingers and moving hands away from its face to reveal its smile. When twins can be seen playing with each other's umbilical cords, small ventricular septal defects can be detected at 12 weeks' gestation, and pre-eclampsia and growth restriction can be predicted by ultrasound combined with blood tests, we are indeed in the realm of a new world. Less than a hundred years ago antibiotics had not yet been discovered, frogs were used to diagnose pregnancy, and close to one in a hundred women were dying during pregnancy. The technological advances that have been made are incredible. However, with advances in technology come problems of resources, of ethics and of training. Our challenge is to address these issues.

In metropolitan South Africa less than 50% of pregnant women have a scan before 24 weeks of their pregnancy. The reasons for this include late booking, lack of money to travel to hospital for a scan, and insufficient trained personnel to do the scans. The situation is substantially worse in rural areas. Our enthusiasm about things like screening for Down syndrome with sophisticated techniques such as nuchal translucency, nasal bone measurement and tricuspid incompetence, as well as the new additions like prenatal thickness measurement, must therefore be tempered by the knowledge that the majority of women do not even have a dating scan. Attention needs to be paid to the provision of this service by training more primary-level sonographers and providing more posts in the community so that women do not need to travel for their scans. Training of midwives, sonographers and medical officers in rural areas is important. Accelerated training programmes and portable ultrasound machines may be part of the solution. Using new technologies such as telemedicine also warrants consideration. In addition, education of both pregnant women and health care workers about the importance of early booking, antenatal care and the value of scans at 13 weeks and 18 - 22 weeks should be addressed.

While poorer women are stuck in the paradigm of lack of service, the other side of the coin is the misuse of ultrasound. 3D/4D ultrasound has several medical applications, including better visualisation of brain abnormalities, detailed heart scanning at a level where defects can now be recognised more easily, and surface rendering of facial morphology. Syndromes characterised by low-set ears, close-set or widely spaced eyes and minor

variations of the nose and chin can now be seen with 3D/4D rendering, where 2D scanning found these details challenging. Spina bifidas can be seen more accurately and the extent of the lesion visualised in detail. However, despite these advances, the main application of 3D/4D scans in South Africa remains the taking of expensive pretty pictures of the baby's face. This boutique scanning has no place in a medical setting.

Advances in prenatal and genetic diagnostics bring with them ethical and moral dilemmas. Women and their partners have to decide whether to make use of these technologies at the risk of hurting the fetus by the technique itself, or by possibly being confronted with the decision for or against termination of pregnancy. The diagnosis of a fetal abnormality forces couples into having to consider decisions about the life or death of the unborn child, its suffering, and the responsibility for the wellbeing of the unborn child even with abnormalities. Health care workers are also put into the position of having to confront these issues. Freud said that 'new and probably unimaginably great advances in this field of civilization ... will increase man's likeness to God ... [but] we will not forget that present day man does not feel happy in his Godlike character.' And thus doctors in this field are also confronted with their own moral dilemmas.

Finally, on the subject of training in ultrasound, many doctors acquire ultrasound machines and yet do not have the training to perform adequate obstetric scans. This has potentially serious consequences – ectopic pregnancies may be overlooked, twin pregnancies may be misdiagnosed, abnormalities may be missed and opportunities for genetic screening may be bypassed through lack of knowledge and practical experience. It is therefore essential that training programmes be put in place and a system of regulation and accreditation implemented. Many primary care workers can easily be trained to perform level 1 scans, and patients can be referred on for more detailed scans. Part of the function of SASUOG is to provide education in the form of congresses, and dissemination of information via its website. This role may well be expanded to include assessment of available courses and provision of standardised training. In the current climate of litigation, it is a brave person who does a procedure such as a scan without sufficient training.

The SASUOG congress this year highlights the new advances and technologies in fetal medicine and ultrasound in obstetrics and gynaecology, and also focuses on some of the dilemmas and controversies in the

field. First-trimester detection of fetal abnormalities, detailed neurosonography, complications of twin pregnancies and pelvic floor ultrasound are some of the topics presented. We also hope to provide some training opportunities through the pre- and post-congress workshops.

Chantal Stewart

Congress Convenor

*Department of Obstetrics and Gynaecology
Groote Schuur Hospital and
University of Cape Town*
