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CLINICAL TRENDS

O&G: We can, but should we?

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Innovations may add significant cost to the community with variable benefits to the individual and society. Consider these innovations in Obstetrics and Gynaecology and ask, "We can, but should we?"

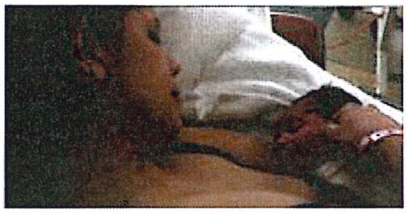
Robotic-assisted surgery

The surgeon performs the operation via a console that remotely manipulates the operating instruments. In the US robotic-assisted hysterectomy is on the rise (0.5% to ~10%, from 2000 to 2013). Because robotic-assisted surgery often takes longer and costs more its position is uncertain (RANZCOG Position Statement, 2013). It will cost an extra $960m-$1.9b annually in the US if all hysterectomies are done with robotic assistance. "At a time of fiscal responsibility and transparency in health care, the use of expensive medical technology should be questioned when less-costly alternatives provide equal or better patient outcomes" (ACOG Presidential Statement, March 14, 2013).

Uterine transplant

The first ever Workshop in Human Uterine Transplantation will be held on February 20, 2014. The Swedish team will teach the basics and prerequisites of establishing such an undertaking.

In congenital absence of a uterus, surgical removal, or some therapeutic treatments, uterine transplantation is the only chance of a pregnancy. From four human case reports, no live pregnancies have been



reported. Uterine transplantation is not a life-saving organ transplant. Protocols are needed that comply with guidelines from the WHO Guiding Principles on Human cell, tissue and organ transplantation and the Transplantation Society of Australia and New Zealand. A highly skilled multidisciplinary team is required for this small volume, highly specialised procedure. No doubt there will be pressure to establish the first human uterine transplant unit in Australia. Should the states vie for this auspicious milestone?

Molecular and genetic technologies

Bevacizumab (Avastin), a humanised VEGF-neutralising monoclonal antibody, when added to standard first-line therapy for advanced epithelial ovarian cancer, increased progression-free survival from 22.4 to 24.1 months (randomised ICON 7 trial), and from 10.3 to 14.3 months (double-blind randomised GOG 218 trial). Neither study showed an overall survival advantage, and Avastatin increased side effects (hypertension, haemato-toxicity, viscus perforation) and worsened quality of life (ICON 7).

The subgroup of patients with suboptimal primary surgical debulking may benefit most. Patients given Bevacizumab in recurrent disease achieved more benefit (OCEANS trial) compared to those having first-line therapy. Drug cost alone per cycle for a 65kg patient is between $2400-$4800.

Non-invasive prenatal testing (NIPT) is a screening test for mothers at high risk of carrying a fetus with a chromosomal abnormality. Maternal blood taken after 10 weeks gestation is analysed for cell free DNA using parallel sequencing (shotgun approach) or DNA sequencing (targeted approach). Both maternal and fetal cell free DNA is detected and the fetal fraction increases as gestation advances.

In high-risk mothers, the test has a 99.5% sensitivity and 99.8% specificity for Trisomy 21 (lower for Trisomy 13 and other atypical chromosomal abnormalities). A positive NIPT result should be confirmed by a diagnostic test (CVS or amniocentesis). Maternal conditions may be inadvertently detected. NIPT currently costs about $800 (not covered by Medicare) and adds $4988 to current calculated costs of $51,372 per Trisomy 21 case confirmed. The testing is currently not performed in Australia and is not subject to NATA regulations. Guidelines for NIPT in Australia are currently being developed. Expert counselling should be provided.

Downstream benefits include the potential for early detection of chromosomal abnormalities and prenatal interventions with neuro-protectors (with acknowledgement to Prof Jan Dickinson).●

References available on request.