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Editor's highlights

What's new?

In October 2010 the Nobel Prize in Physiology or Medicine was awarded to Professor Robert G Edwards for the development of in vitro fertilization (IVF). This is a fitting – and some would say long overdue – tribute to a man who has changed the lives of millions of people. What is remarkable about his achievement is not so much that he had to contend with vociferous opposition to the idea of "creating life in a test-tube" but that he succeeded without official support or funding. His original research had been on mice but when he applied to the UK Medical Research Council for long-term support for studies on human reproduction, his request was turned down, partly because infertility had a low priority compared to population control. It took remarkable tenacity for Edwards and his clinical colleague, Patrick Steptoe, to pursue their privately-funded research for 10 years without success until the birth of Louise Brown in 1978. Steptoe, another independent-minded pioneer, who had introduced laparoscopy into UK practice, died in 1988. We are delighted that Edwards, now aged 85 and in failing health, has lived to see his contribution recognised.

One of the main concerns about IVF had been about the health of the children conceived by this technique. This has been the subject of continuing scrutiny over the last three decades, and on page 125 Fortunato and Tosti of Naples, Italy, present an update of their 2006 review of risks related to assisted reproductive technology (ART). ART, of course, now includes intracytoplasmic sperm injection (ICSI), which over-rides the natural selection of motile spermatozoa. The review's first conclusion is already well known – that multiple pregnancy involves increased risk to the health of mothers and babies. Every effort should be made to reduce the chance of multiple gestation but, regrettably, some practitioners are still reluctant to follow this advice. Fortunato and Tosti conclude that IVF is associated with a minor increase in the incidence of birth defects (though it is unclear whether this is due to the treatment or to the underlying causes of infertility) and that several lines of evidence suggest a link between ART and psychological disorders in the parents and the child. The authors conclude by drawing attention to the need for accurate clinical and psychological counselling before treatment decisions are made, though clinicians will be well aware of the difficulty in counselling couples who are desperate to have a baby.

Our second review this month is on random glucose testing (RGT), which is widely used to screen for diabetes in pregnancy. It is simple and cheap but the evidence about its accuracy is inconclusive. On page 130 van Leeuwen and colleagues from Amsterdam, The Netherlands, present a systematic review of studies comparing RGT to oral glucose tolerance testing (GTT) before 32 weeks of pregnancy. They identified six studies, involving 3537 women. The small number of studies and their heterogeneity meant that summary estimates of test accuracy could not be calculated. For 100% sensitivity, specificity was around 40% and when specificity approached 100%, sensitivity dropped to 20–30%. The authors conclude that evidence is limited but a single random glucose measurement is inadequate to screen for gestational diabetes.

Obstetrics and maternal–fetal medicine

Rising caesarean section (CS) rates are causing concern in many countries, and various strategies have been proposed to combat this trend. One of the most effective is the medical audit cycle, as pointed out on page 136 by Scarella and colleagues from Latin America (the region which, as they also point out, has the highest CS rate worldwide). The authors used the Ten Group Classification System (TGCS), which was introduced by Robson in 2001 and has now been widely adopted as a framework for auditing and analyzing CS. The paper describes a prospective study conducted in one maternity hospital over a 21-month period which was divided into three phases: a basal period when the TGCS was implemented, an intervention period involving monthly audit reports to staff and three-monthly staff meetings, and a post-intervention period during which the audit was continued but the results were not reported to the staff. The CS rate fell from 36.8% in the first period to 26.5% in the second, but rose again to 31.8% in the post-intervention period. The neonatal asphyxia rate remained unchanged throughout. The authors commend audit through the TGCS as an effective, safe, economical and easy-to-implement strategy to reduce the CS rate, but it seems that once started, it needs to be continued.

Another trend being seen now in many countries is fertility postponement, with births to women over the ages of 35 and 40 becoming increasingly common. Pregnancy complications are more common in these older age groups, which also have a higher prevalence of minor symptoms of pregnancy and of depression. All of this may lead to higher use of antenatal services by older women, at a time when in some countries services are under pressure because of financial constraints and increasing numbers of births. Klemetti and colleagues from Oxford, UK, (page 157) conducted a survey of a random sample of 4800 women from a national cohort giving birth in one week in 2006 in England.

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Women were contacted three months postpartum and a 63% response rate was achieved. Pregnancy-related symptoms were common. Older women used antenatal health care less than younger women and experienced fewer symptoms, but the symptoms they reported, such as varicose veins and stress incontinence, were of the type more likely to persist after pregnancy. Depression, however, was more commonly reported by younger women. The authors comment that longer-term follow-up of women's health after birth is warranted, as we have little evidence about the later impact of such problems.

Reproductive medicine and endocrinology

Romania's past political problems had a marked effect upon women's reproductive health. During the totalitarian regime women had no access to modern contraceptive methods, and abortion was illegal. Enforced reliance on withdrawal and the "infertile days" method led to unwanted pregnancies and illegal abortions. When abortion was finally legalized after 1989 the abortion rate rose to a very high level and although it fell again in the 1990s it remains by far the highest in Europe. On page 163, Gregorova and colleagues from Prague and Brno contrast Romania with the Czech Republic, which has had relatively liberal policies towards abortion and contraception for many years, even under Communism. The authors conducted a questionnaire study among 1011 Czech and 1001 Romanian women and found persistent differences in contraceptive behaviour. Czech women are more frequent users of contraceptives in general and hormonal methods in particular. Romanian women tend to use less reliable methods but they more often use condoms as a means of protection. The authors are planning a further survey, focusing on different types of hormonal and intrauterine contraception.

Research on IVF and ART continues, as demonstrated by two papers in this month's issue. On page 167 Tonguc and colleagues from Ankara report a study aimed at finding the optimal dosage of oestradiol for luteal support in IVF cycles. They randomized 285 patients into three groups receiving 2, 4 and 6 mg oral oestradiol in addition to progesterone in the luteal phase, and found no significant differences in the pregnancy rates, which were 32%, 40% and 32% respectively. The miscarriage rate, however, was significantly higher at the lowest dosage of oestradiol, and therefore the authors recommend the addition of 4 mg of oral oestradiol to reduce the risk of miscarriage.

The problem of multiple pregnancy resulting from ART has been mentioned above. This applies not only to IVF but also to other forms of ART such as intrauterine insemination (IUI). On page 182 Groeneveld and colleagues from Amsterdam, The Netherlands, report a retrospective study of 378 patients undergoing a total of 1400 IUI treatment cycles in 2006 and 2007. Women received three natural cycles without controlled ovarian hyperstimulation and then three cycles with mild stimulation with highly purified human menopausal gonadotrophin (HMG). In the natural cycles, the ongoing pregnancy rate was 6% and one twin pregnancy occurred. In the HMG cycles the ongoing pregnancy rate was 7.4% (rising to 10.8% in the fifth treatment cycle) and three twin pregnancies occurred. The authors conclude that mild ovarian stimulation with highly purified HMG achieved an acceptable balance between ongoing and multiple pregnancy rates, and they recommend further trials investigating other types and dosages of gonadotrophins.

Gynaecology and gynaecological oncology

Endometriosis is an important cause of infertility, and deeply infiltrating endometriosis is also likely to cause severe pelvic pain and dyspareunia. Medical treatment offers only temporary relief and surgery may be required, often presenting a major challenge to the surgeon. Complications such as fistula or abscess formation not only affect the patient's quality of life but also have implications for future fertility, though until now there have been no data on this. On page 191 Kondo and colleagues from France report a retrospective study of 23 women who had major complications from surgery for deep endometriosis in teaching and research hospitals. There were 10 spontaneous and three IVF conceptions among 11 patients, with an overall intrauterine pregnancy rate of 48% and live birth rate of 30%. The probability of conception was lower in older women and in those who experienced a bowel complication as compared to a urological complication. The authors advise that women contemplating this type of surgery should be informed about these findings.

Endometrial cancer is usually diagnosed at stage I and treated surgically. With "stage IC" officially abolished in FIGO's 2009 update, tumour confined to the uterus and invading more than halfway through the myometrium is now classified as stage IB. "Stage IC" is still widely used by clinicians, however, and on page 195 Taskin and colleagues from Ankara present a study aimed at clarifying the role of adjuvant radiotherapy in these cases. Among 57 stage IC endometrial cancer patients, 20 received postoperative radiotherapy and 37 were observed without additional therapy. Five-year disease-free survival rates were 91% and 63% respectively, and 5-year overall survival rates were 90% and 81% respectively. The differences between the groups were not statistically significant, however, and the authors conclude that as treatment-related side-effects occurred in 25% of radiotherapy patients, postoperative observation without radiotherapy may be an appropriate approach. Nevertheless they point out that their study had a low number of patients and that a larger study will be more appropriate.

Gynaecological urology

Much attention is now being paid, and rightly so, to the effect of childbirth on the pelvic floor. Obstetric anal sphincter injuries (OASIS) occur in 0.5–0.9% of vaginal deliveries but there are conflicting data about their effects on pelvic floor function. Marsh and colleagues from the UK conducted a prospective cohort study of 435 women who sustained OASIS in one hospital between 2004 and 2009. All the injuries were repaired by appropriately trained obstetricians, and women were reviewed three months postpartum at a specialized clinic where assessment included a structured questionnaire. All but 4% were faecally continent but 34% reported faecal urgency and 25% suffered poor flatal control. Sixteen per cent reported stress urinary incontinence and of the 57% who had resumed sexual intercourse, 32% reported dyspareunia. Risks increased with advancing maternal age and with the use of forceps, particularly rotational forceps. The authors comment that these data should help in targeting more intensive follow-up to women at highest risk.

J. Drife