

Non-daily hormonal contraception

The combined oral contraceptive (OC) pill is the most commonly used form of pregnancy prevention in the developed world. Despite this popularity, less than half of women starting OCs are still using them 6 months later. The fact that OCs have to be taken every day is one reason for the lack of continued use, and, in the real world, after 3 months half of all women admit to missing three or more pills per month.

Non-daily delivery of hormonal contraception can be achieved for progesterone by depot injections or intra-uterine systems, and more recently for oestrogen plus progesterone by transdermal patches or vaginal rings.

Women on OCs, and satisfied with them, may wish to switch to the patch or ring for convenience, but little evidence is available as to which is preferable in terms of ease of use and side-effects.

Creinin *et al.* (*Obstet Gynecol* 2008; 111: 267-277) compared the patch (OrthoEvra, Ortho Pharmaceuticals, US) with the ring (NuvaRing, Organon US) in a head-to-head study over 3 months of use. Both methods took some getting used to, with patch detachment or removal occurring in half of the women some time during each 3-week cycle, while the ring fell out or was removed slightly less often. Side-effects of longer menstruation and/or menstrual pain were greater for the patch, but the ring caused problems with intercourse appreciably more often than the patch.

Overall, 25% of women using the patch said they would continue to use them, compared with 70% who would continue with the ring. These data assist in advising women about where the new delivery systems fit into the contraceptive landscape.

Bio-identical hormones

Doctors and consumers are subjected to advertisements about 'bio-identical' hormone replacement therapy. Unethical claims are being made that these products are identical to those made endogenously, but are at the same time natural, thus implying safety.

The problem is that these 'bio-identical' products are not tested in trials of any sort and no articles about them reach the journals. The advertisers are unscrupulous about claims that appear in newspapers and magazines and on the Internet, especially concerning safety and dosages. Rebuttals are difficult or impossible and the pharmaceutical

companies responsible cash in, and then stop production if challenged.

According to Kuehn (*JAMA* 2008; 299: 512) the dosages can vary enormously and the products can range from useless to dangerous. Doctors and regulatory agencies should warn against these 'fly-by-night' pill pushers and their products.

Calcium in older women

It seems logical to offer postmenopausal women calcium supplementation to prevent osteoporosis. However, these women are increasingly at risk from cardiovascular (CVS) events, stroke and sudden death, so if taking calcium increases CVS risks these need to be taken into account when evaluating the greater good of additional calcium.

Bolland *et al.* from New Zealand (*BMJ* 2008; 336: 262-266) studied a group of healthy women over the age of 55 years who were receiving 1 g of calcium a day or placebo over a period of 5 years. They found calcium increased the risk of cardiovascular events and stroke to the extent that there would be more CVS events attributable to calcium than hip or other fractures prevented by taking it. These results need corroboration, but they raise the question of balancing risks, and it seems that it is only in women at high probability of fracture – in whom bisphosphonates have proved helpful – that extra calcium should be prescribed. As always, it appears that a healthy balanced diet is the best defence against osteoporosis and adverse cardiovascular effects.

Other medications are also having their efficacy questioned – and being found wanting, for example:

- Aprotinin (Trasylol), used to reduce bleeding in coronary artery bypass operations for the last 15 years, probably does more harm than good (Schneeweis *et al.*, *NEJM* 2008; 358: 771-783).
- Activated charcoal does not work in the treatment of self-inflicted over-dosages of organic pesticides or yellow oleander (Eddleston *et al.*, *Lancet* 2008; 371: 579-587).
- Probiotics used prophylactically in severe acute pancreatitis are associated with an increased mortality (Besselink *et al.*, *Lancet* 2008; 371: 651-659).
- Cold and cough medicines given to children younger than 2 years old carry serious risks and should not be prescribed (Kuehn, *JAMA* 2008; 299: 887-888).

Caesarean section information

Many aspects of CS delivery are being studied, and the following summaries add to our knowledge on the procedure.

Exteriorisation of the uterus

Once the baby and placenta have been delivered, the uterine incision is sutured with the uterus either outside the abdominal cavity (exteriorised) or within the abdominal cavity (*in situ*). There are proponents of each method, and it is claimed that while exteriorisation allows better access to the incision and therefore faster stitching, the technique causes increased vagal stimulation and nausea. The suggestion of increased sepsis rates with exteriorisation has also been raised.

Continho *et al.* from Brazil randomly allocated over 300 patients into each arm of a trial to compare exteriorisation with *in situ* repairs and found little difference in outcomes (*Obstet Gynecol* 2008; 111: 639-647). The exteriorised repairs were slightly quicker and used fewer sutures, but *in situ* suturing was associated with less postoperative pain at 6 hours. It seems that surgical preference can dictate the technique employed, as the differences are marginal in the real sense of the word.

Subsequent scar rupture

Vaginal birth after caesarean (VBAC) was supported by those trying to reduce CS rates, and in the USA over the last 30 years VBAC rates have swung considerably. Reports of scar rupture risks have meant that rates (which initially rose from 3% to 30%) have now plateaued at 10%, but within this group it still seems that some situations are more vulnerable than others. Sciscione *et al.* (*Obstet Gynecol* 2008; 111: 648-653) have shown that women who had a previous preterm CS are at twice the risk of rupture compared with those who had their previous CS at term. The absolute risk remains small, with an overall risk of 0.3%.

The authors postulate that the difference may be due to the physical differences of the lower segment formation earlier in pregnancy or the earlier deliveries being precipitated by inflammatory initiation of preterm delivery and subsequent poorer healing of the scar. The rupture is also more likely at an earlier gestational age, so this needs to be factored into the timing of elective surgery, if that is decided upon.

Timing of elective CS

Neonatal lung function is better in infants delivered by elective CS after the onset of labour than in those delivered by elective CS before labour, probably because of surges in catecholamines and steroids and changes in oxygen tension. The timing of an elective CS is important in reducing the incidence of respiratory distress syndrome, but it seems there are racial differences in lung maturation relative to gestational age.

Balchin *et al.* (*Obstet Gynecol* 2008; 111: 659-66) observed both earlier onsets of labour and reduced rates of respiratory distress syndrome (RDS) in women and infants of South Asian and black racial groups. They suggest that the 39 weeks optimal elective CS timing for whites should be reduced to 38 weeks for South Asian and black women to strike an optimal balance between elective procedures being switched perforce to emergencies and the prevalence of RDS in their offspring.

Race and rupture

It seems there are racial disparities in the predisposition of a previous CS scar to rupture in a subsequent labour. Looking at a large cohort of women attempting a vaginal birth after a CS, Cahill *et al.* from the USA noted that black women were less likely to experience rupture than their white counterparts (*Obstet Gynecol* 2008; 111: 654-658).

This did not mean their trial labour was more likely to end in a vaginal delivery (with the odds slightly against them), but knowing that their chances of rupture are 40% less than generally quoted for white women may materially affect decision-making.

Eating after CS

CSs are the most frequently performed of any major operation in the world. With rates of 25 - 30% of all deliveries in many countries, it is surprising how little evidence there is on detail about the procedure – for example, when should a woman be fed post-CS? Traditionalists start with oral fluids for 24 hours, listen for bowel sounds and then pronounce the patient 'fit to eat'. There is little evidence that withholding solid food postoperatively has any advantage – in fact, the opposite is true as immediate feeding facilitates the return of bowel sounds and normal eating habits, plus encourages earlier discharge. But is this early feeding approach acceptable? To answer this a trial was conducted on women who had recently undergone a CS – either elective or intrapartum – under regional anaesthesia.

Izbizky *et al.* from Argentina (*BJOG* 2008; 115: 332-338) randomly allocated women to early feeding within the first 8 hours post-op or to delayed feeding with fluids only for the first 24 hours, then a normal diet. The women rated the regimens similarly in terms of satisfaction and there were no complications attributable to early feeding. However, those given food earlier had statistically less pain, so it appears that women can eat solid food as soon as they feel like it post-CS and, in terms of pain perception, the earlier the better.

IVF and acupuncture

In vitro conceptions now account for up to 4% of all pregnancies in developed countries. In Europe alone, some 300 000 treatment cycles are carried out per year, with 90% of them resulting in at least one embryo being transferred. The problem is that only about 25% of all cycles lead to implantation and a live birth.

Clearly, any means to improve the proportion of live births per cycle is attractive, both medically and commercially, and many have been tried – such as using support gonadotrophins with luteinising activity, assisted hatching, and the transfer of 5-day rather than 3-day embryos. All these have their statistical advantages, but other factors such as cost and side-effects have to be taken into account when deciding to incorporate them into standard practice.

An adjunct therapy that has been grabbing attention is acupuncture. It has been used to regulate the reproductive cycle in China for centuries, and Manheimer *et al.* (*BMJ* 2008; 336: 545-549) quote possible mechanisms for its mode of action. They also reviewed the world literature and have produced a meta-analysis which suggests that, given with embryo transfer, acupuncture enhances a woman's chances of pregnancy and a live birth. They calculate that 10 women would need to be treated for an additional pregnancy and live birth. Whether these data are reproducible in large prospective trials is for the future, but the order of magnitude of improved outcomes is higher than for more conventional adjunct manoeuvres, so some enthusiasts are likely to be persuaded by the evidence already presented.

Normal early pregnancy

Women are encouraged to book in the first trimester, and usually an ultrasound scan is carried out to confirm viability by the presence of cardiac activity. If the woman is at low risk she can be reassured that her chances of the pregnancy progressing are very good, but the actual statistics are unknown. Tong *et al.* (*Obstet Gynecol* 2008; 111: 710-714) worked out the odds of a miscarriage in a normal pregnancy.

At 6 completed weeks of gestation, women with uncomplicated pregnancies had a 91% chance of the pregnancy continuing past 20 weeks – that is, of not having a miscarriage. The chances of a successful outcome rose with each week, being 96% at 7 weeks, 98.5% at 8 weeks and over 99% at 9 and 10 weeks.

The figures are lower than the accepted 15% miscarriage rate of all clinically recognised pregnancies and obviously better than for those presenting with complications, such as pain or bleeding. These data may be helpful to clinicians and prospective parents seeking reassurance before announcing their pregnancy.

These summaries were extracted from **Journal Article Summary Service (JASS)**, which can be accessed at www.jassonline.com

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