Pregnancy complications and SIDS

There appears to be an association between complications in pregnancy and the sudden infant death syndrome. If this is true, then infants born after certain complications would be more at risk from SIDS and the corollary may also apply – that woman who have lost an infant from SIDS are likely to have complications in their next pregnancy.

To investigate, a group from Cambridge, UK (Smith *et al., Lancet* 2005; **366:** 2107-2111) looked at SIDS deaths and found them largely to be isolated events; however, the chances of a second infant also dying of SIDS was five times the statistical chance in the general population. Some ongoing mechanism is clearly operating, so they recalled the obstetric history of SIDS victims and traced the obstetric performance of mothers the next time around.

After a SIDS tragedy a woman is more likely to have her next pregnancy complicated by growth restriction or preterm labour. Also, a history of preterm or SGA delivery in one pregnancy makes the next child more likely to die from SIDS.

These findings suggest a common mechanism, a maternal risk factor that predisposes her to both obstetric and infant complications. The mechanisms are unknown but may include genetic factors or some placental dysfunction that could be associated with raised alpha-fetoprotein levels during pregnancy.

SIDS is the most important single cause of infant mortality in the developed world, and this study opens new possibilities in identifying one cause and maybe its prevention. Until further progress is made three sensible precautions are known to reduce SIDS risk – placing the baby on his or her back to sleep, not smoking in the infant's home, and using a dummy or pacifier (Li *et al., BMJ* 2006; **332:** 18-21).

Emergency cervical cerclage

Cervical cerclage to prevent preterm delivery does have a place in obstetric management. The problem lies in defining that place, as it is an invasive procedure, and it is possible that stitching the fetus into a hostile intrauterine environment may be harmful.

A single ultrasonic measurement of a short cervix (less than 15 mm) is, in itself, not reason enough to act, but serial scans revealing a dilating cervix are certainly an indication for cerclage. Daskalakis *et al.* from Greece followed asymptomatic women who agreed to have their cervical length measured vaginally when attending for a mid-trimester routine fetal anomaly scan (*Obstet Gynecol* 2006; **107:** 221-226). If they declined the procedure, they were allocated to the bed-rest group and acted as controls.

Those who accepted cerclage had considerably better outcomes than the controls, their delivery being prolonged by 9 weeks after diagnosis compared with 3 weeks in the controls, the mean birth weights being 2 100 g and 740 g respectively. It is clear that in a highly specific group of asymptomatic women with no adverse history or contractions there is a place for emergency preventive cervical cerclage.

Whether this small report of a highly refined group of patients can be extrapolated to wider indications remains unresolved, but in this specific population it is highly effective.

Work and pregnancy

In developed countries, more women are working when pregnant than ever before. Three decades ago, less than half of pregnant women were in paid employment outside their homes – now two-thirds are. They are also working later in pregnancy.

It is not known whether physical exertion or work has detrimental effects in terms of preterm delivery or growth restriction, so Pompeii *et al.* studied the problem prospectively (*Obstet Gynecol* 2005; **106:** 1279-1288). They looked at long work hours, physical exertion, and night work and related their findings to suboptimal outcomes. Standing for long hours or lifting objects or exercise were not related to any adverse outcomes, but night work was. Working between 22h00 and 07h00 did appear to increase the risk of preterm delivery, which may be related to circadian uterine activity patterns.

Also coming out in favour of exercise in pregnancy, the RCOG encourages participation in aerobic exercise and says that fitness has positive effects on fetal and maternal outcomes (RCOG Statement No. 4, January 2006).

Metronidazole for preterm labour

There is supposed to be a connection between infection and preterm labour. There is also an association between previous early deliveries and fetal fibronectins found intra-cervically with preterm labour. It would be logical to experiment by giving women with an at-risk obstetric history plus positive fibronectin findings metronidazole or a placebo and observe the results.

This is what Shennan *et al.* did (*BJOG* 2006; **113:** 65-74), but the findings were counter-intuitive. More women went into preterm labour after receiving the metronidazole, compared with the placebo, so the trial had to be stopped early. Metronidazole should therefore be reserved for specific indications in pregnancy, and certainly not be given for the prevention of preterm labour.

Herbs for menopausal symptoms

Most herbal remedies for menopausal symptoms give under-whelming results – in fact, most research shows they are no better than placebo. There is always a placebo effect in these trials, so any claims at improvements must show a reduction in symptoms well below possible 'suggestion or Hawthorne' effects.

At last one such study has appeared (Uebelhack *et al., Obstet Gynecol* 2006; **107:** 247-255) from Germany using black cohosh plus St John's wort. Black cohosh extract in the dosage of 1 mg triterpene glycoside, the active ingredient, is said to relieve symptoms of hot flushes, night sweats and sleep disturbances without exerting oestrogenic effects. St John's wort has proved effective in the treatment of depression and mood disorders at a dose of 0.25 mg hypericine, so the combination of the two herbs was tested against placebo in the hope of relieving menopausal physiological and psychological symptoms without the side-effects of oestrogens or selective serotonin reuptake inhibitors.

Over a 16-week trial period, the women's menopause rating scores were reduced by 50% in the active ingredient group and by 20% in the placebo group. In the depression rating scale treatment resulted in a 40% reduction in symptoms with a 12% placebo effect. The authors claim that the relatively low placebo effect was due to a single investigator being employed who did not accentuate the psychotherapeutic approach.

The side-effects were minimal, and it appears that the combination of a fixed dose of black cohosh and St John's wort has a place in the management of climacteric complaints with a pronounced psychological component.

Magnets

Magnet therapy sales amount to $300 million per annum in the US. Bracelets, insoles, wrist and knee bands, back and neck braces plus pillows and mattresses containing magnets are sold to the gullible public with claims of curing everything from cancer to infertility. None of them work and, as Finegold and Flamm put it, 'Patients should be advised that magnet therapy has no proved benefits' (*BMJ* 2006; **332:** 4).

Cost of twins

The epidemic of multiple pregnancies that has accompanied assisted reproduction is being stemmed. Fewer embryos are being introduced with much in favour of single transfers, the latest figures for the UK being 73% singletons, 25% twins and 2% triplets in 2001. The benefits are apparent with fewer very preterm deliveries resulting in cost savings since the direct cost to the NHS per IVF singleton family is £3 000, per twin family £9 000 and per triplet family £32 000 (Ledger *et al., BJOG* 2006; **113:** 21-25).

Another detrimental effect of twinning may be avoided: twins have lower IQs in childhood than singletons, which is predictive of lower educational achievement, socio-economic position and adult health. A Scottish survey has corroborated these facts and looked at intelligence in relation to growth restriction and gestational age. They suggest that these obstetric factors are part explanation, adding impetus to the 'fewer embryo transfer' calls (Ronalds *et al., BMJ* 2005; **113:** 1306-1309).

Ultimate sex discrimination

There are more boys than girls born in India. The discrepancy is becoming more marked with every census, and is greater in urban than rural areas and among higher socio-economic groups. It is not a natural process, as there are more male than female stillbirths and infant mortality ratios are equal.

The situation is even more apparent in households where the first-born is a girl – the next child is much more likely to be a boy, rather than another girl. In other words, the sex of the existing child or children affects the sex of the next born.

Jha *et al.* (*Lancet* 2006; **367:** 211-218) traced these trends by conducting interviews in over one million households. They postulate that prenatal sex testing with abortion of female fetuses is the most likely explanation, which fits with India's common ideology. Although illegal and officially condemned (Sheth pp. 135-136), the practice of ultrasonic or amniocentesis sex determination is widespread and it is calculated that in that country alone 10 million female fetuses have been aborted in the last two decades. China is suspected of having a similarly discriminatory attitude, and the world figure of 'missing presumed dead' female babies is estimated at 100 million.

Third-degree tear repair

A third-degree obstetric tear is classified as a disruption of the external anal sphincter without involvement of the rectal mucosa. Where the anal or rectal mucosa is involved, it is classified as a fourth-degree perineal tear.

Such tears are repaired immediately after delivery and complications are thought to be related to the expertise of the surgeon, the technique used and the type of suture material used. Williams *et al.* (*BJOG* 2006; **113:** 201-207) looked at the results of repairs using two different techniques and two different suture materials. The techniques were either end-to-end anastomosis or overlapping repair of the sphincter muscle, and the sutures were either 2/0 polyglactin (Vicryl) or 3/0 polydioxanome (PDS).

Since neither technique nor suture material made any difference at 6 weeks or 12 months there is little point in detailing the merits or demerits of either, but the excellent results in terms of function do deserve comment. More than two-thirds were asymptomatic at follow-up, with vaginal dryness and loss of libido being the main complaints. Continence scores with manometry and endosonographic anal scans were used in conjunction with pudendal nerve motor latency testing to detect defects as well as detailed questionnaires. Low morbidity with high continence plus good quality of life scores indicate that the methods used were satisfactory, and they are summarised here.

All tears were identified at delivery and immediate repair was carried out in theatre with full aseptic conditions under spinal, epidural or general anaesthesia. The torn ends of the external sphincter were identified and sutured end-to-end or overlapping with absorbable sutures, but no attempt was made to identify the internal sphincter. Three or four interrupted mattress sutures were used for apposition without tension.

The perineal muscles were sutured with 2/0 Vicryl and the vaginal epithelium was closed using the continuous non-locking method and the perineal skin opposed with subcuticular Vicryl. The women received 1.5 mg cerfuroxine plus 500 mg metronidazole in theatre, followed by a 7-day course of cephalexin 500 mg plus metronidazole 500 mg 3 times a day and one sachet of ispaghula husk (Fibogel) twice a day for 10 days.

The authors imply that the most important factor was the training in meticulous technique of the surgeons, each of whom had undergone regular workshops using pig sphincters as training material. The constant training and retraining of labour staff is echoed by the improved results after staff education in emergencies as demonstrated by Draycott *et al.* (pp. 177-182).

TVT for detrusor over-activity

Detrusor over-activity occurs commonly with stress incontinence, giving a mixed picture. It has long been held that operating on these patients was likely to make that stress better but their over-activity or urge incontinence worse. This turns out to be urban legend, according to Duckett and Tamilselvi (*BJOG* 2006; **113:** 30-33), who did urodynamic studies on women with combined incontinence before and after TVT surgery. As expected, 90% of the cohort had their stress incontinence improved but, in addition, 50% had objective evidence of their urge incontinence getting better. This figure was further improved to 70% with the addition of anticholinergic medication, so some of us will have to revise our prejudices.

TVT for stress incontinence

Tension-free vaginal tape placements are now the surgical procedure of choice for stress urinary incontinence. To assess the influence on quality-of-life factors, Schraffordt Koops *et al.* (*BJOG* 2006; **113:** 26-29) conducted a prospective trial in The Netherlands that measured an array of symptoms before and after surgery. Over 600 women with a mean age of 50 years had TVT placements, which each took an average of 30 minutes of operating time in 40 different hospitals. Follow-up was diligent and over 80% of patients reported cure of their stress incontinence which was sustained for the 2 years of the survey, leading to a considerably improved quality of life.

Cervical treatment and pregnancy outcomes

The huge strides made in the reduction of cervical cancer morbidity and mortality have been due to the treatment of pre-malignant or early malignant lesions. Methods of eradicating the transformation zone by excision or destruction have anatomical and physiological consequences in later reproductive function, and these are now being quantified.

Cold knife conisation is associated with preterm delivery, low birth weight and caesarean section risks, as are the effects of large loop excision of the transformation zone. The obstetric problems do not translate into neonatal morbidity, and nor does the treatment of intra-epithelial neoplasia appear to jeopardise fertility, although the authors acknowledge the lack of data in this domain (Kyrgiou *et al., Lancet* 2006; **367:** 489-498).

The biggest changes in oncology practice have been the fertility-sparing procedures in gynaecological malignancies reported by Farthing (*BJOG* 2006; **113:** 129-134). Hormonal treatment of endometrial cancer is realistic and reports of subsequent reproduction are not uncommon. Cervical cancer stage 1b1 can be treated with extensive excision plus lymphadenectomy or radical trachelectomy, leading to admittedly high subsequent pregnancy losses, but some survive, so there is hope of successful obstetric outcomes after cancers that were previously thought to exclude future reproduction. Even some approaches to ovarian epithelial cancers using chemotherapy, rather than radical surgery, are now proving their worth.

Women facing treatment for genital malignancy are being given very different prognoses with respect to their obstetric future.

Antidepressants in pregnancy

Depression is an extremely prevalent disorder in the reproductive years. Many women are on antidepressants such as tricyclics and selective serotonin re-update inhibitors, but it is unclear whether they should continue on their medication if they plan a pregnancy or find themselves pregnant.

Folklore has it that pregnancy has a protective effect on mood disorders, but the evidence refutes this (Cohen *et al., JAMA* 2006; **295:** 499-507). There is no change in a woman's chances of relapse if she continues her therapy into pregnancy, but if she stops treatment she has a 5 times greater chance of relapse. In actual numbers, two-thirds of women with major depression will suffer a recurrence if they halt their medication during pregnancy, but only a quarter will relapse if they continue taking it. The latest evidence is that the newer antidepressants do not raise the risk of major congenital malformations, with only a putative suggestion of increased cardiovascular anomaly risk.

Obstetricians and GPs can now advise women on their risks of harm to themselves or their fetus if they are on antidepressants and wish to stop treatment. Informed decisions are now possible.

As with many associations that draw attention to anecdotes, data are starting to appear about antidepressants in pregnancy and abnormal outcomes. Chambers *et al.* (*NEJM* 2006; **354:** 579-587) have shown a 6-fold increase in the incidence of persistent pulmonary hypertension of the newborn and SSRI use in the second half of pregnancy. It was not found with other antidepressants, and because the condition carries a high morbidity and mortality, it should be taken into account when counselling depressed women in pregnancy.

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Editor