

Diet and cancer

A major report has just been published by the World Cancer Research Fund on the links between diet and cancer. The contributors are international experts and the work took 5 years, so its conclusions can be taken seriously. They make four points we should note.

- Obesity increases the risk of cancer of the oesophagus, colorectum, pancreas, breast, endometrium and kidney. The ideal body mass index is between 21 and 23, but the mean BMI in the UK is 27 at present (Key, *BMJ* 2007; 335: 897).
- Alcohol increases the risk for cancer of the mouth, pharynx, larynx, oesophagus, colorectum and breast – in addition to which it causes cirrhosis which predisposes to liver cancer. They recommend a maximum of 2 units a day for men and 1 for women, although the current 'standard drink or tot' is inconsistent. The British measure of a beer or glass of wine contains 8 g ethanol, whereas other countries' 'single drink' contains 10 - 15 g alcohol (Seabrook, p. 1008).
- Fruit and vegetables protect against cancers and the recommendation remains 5 portions per day, but the experts admit that the mechanism of action is not clear. The role of fibre as the means of protection is not compelling.
- They come out strongly against red and processed meat, declaring that they 'convincingly cause colorectal cancer'. This is a much more resolute stance than in previous reports, saying that those people eating the most red and processed meat have a 30% increased risk compared with those eating the least. They recommend 300 g per week, whereas the average in Western countries is 3 times that at present.

Fibroid embolism or hysterectomy

Uterine artery embolisation (UAE) of fibroids is being more and more frequently carried out as an alternative to hysterectomy or myomectomy. UAE has the advantages of being less invasive and requiring a shorter stay in hospital than hysterectomy, and the

possibility of future fertility is not totally excluded.

However, UAE has the risk of failure with the need to resort to further procedures in about a quarter of patients, and the long-term outcomes are not yet clear. In an attempt to quantify results of either UAE or hysterectomy, Dutton *et al.* (*BJOG* 2007; 114: 1340-51) looked retrospectively at women treated in the mid-1990s by one means or the other, and medium-term comparisons are now possible.

It is noteworthy that both methods had high acceptability rates and relieved symptoms in the majority of cases, which means that choices can be made between the two modalities on criteria other than their medium-term outcomes. These other factors are fewer operative complications to UAE at the expense of a greater number of general side-effects. Also, UAE is the cheaper alternative, even when repeat procedures are factored in, and the short-term quality of life implications are also in its favour, so it appears to provide a genuine alternative option for the woman and her doctor.

Hysterectomy trends have been slow to change in the USA. It is still the most common major surgical procedure carried out in women, and the latest figures for 2003 reveal frequency rates of 5 per 1 000 women-years, which is unchanged from a decade earlier – a total of 600 000 per year (Wu *et al.*, *Obstet Gynecol* 2007; 110: 1091-5).

What has changed has been the approach, with laparoscopic hysterectomies constituting less than 1% of the total in 1990 and now making up 12% – with the vaginal route being 22% and the abdominal 66%.

It will be interesting to watch the effect of embolisation, endometrial ablation techniques and modern medical methods on overall hysterectomy rates. The data quoted here are for benign disease in premenopausal women, with fibroids the most common indication and the majority of women in their late forties. The authors predict that as techniques become more sophisticated and training more widespread, the laparoscopic approach will become more popular with its advantages of lesser invasion and shorter hospital stays at the expense of a longer mean operating time – at present around 2 hours (O'Hanlan *et al.*, pp. 1096-101).

Incomplete miscarriage management

There are three ways to manage an incomplete miscarriage – expectant, medical and surgical. All have their advantages and disadvantages, but real-world circumstances often dictate which line of treatment is followed.

In resource-poor developing countries, misoprostol is being more and more extensively used post-miscarriage, and research into its efficacy and safety is being reported (Gemzell-Danielsson *et al.*, Shwekerela *et al.* and Dao *et al.*, *BJOG* 2007; 114: 1337-9, 1363-7 and 1368-75). In sub-Saharan Africa manual vacuum aspiration (MVA) is the standard management of an incomplete miscarriage, and recent trials have compared oral misoprostol (600 micrograms) with MVA to measure outcomes and side-effects. Their results are impressive, with over 95% of women being completely treated by misoprostol or MVA. Side-effects of either method are rare and sepsis rates low, despite the studies being conducted in countries with high HIV prevalence and restrictive termination of pregnancy legislation.

Patient satisfaction with misoprostol was acceptable and its low cost and ease of use will undoubtedly see its introduction in secondary and primary care settings in developing countries. It needs the authorities and the pharmaceutical industry to regulate misoprostol's availability and packaging to be combined with education for the full value of this advance to be realised. It certainly is a pragmatic way to manage an incomplete miscarriage, and one wonders when the option will become mainstream in the developed world.

Caesarean section

Placenta praevia morbidity

The epidemiology of rising caesarean section (CS) rates has shown a correlation between a previous CS and the risk of a placenta praevia in a subsequent pregnancy. A previous CS also increases the risk of obstetric complications such as blood transfusion, hysterectomy and endometritis. The question now arises as to the risks involved when a patient with a prior CS does present with a placenta praevia.

Grobman *et al.* from the USA (*Obstet Gynecol* 2007; 110: 1249-55) reviewed 70 000 women with a previous CS and found a placenta praevia rate of 1.3%, which is significantly raised. These women were more at risk of intra-operative and postoperative complications and the extent of their morbidity rose with the number of previous CSs. The complications ranged from placenta accreta to coagulation and transfusion problems and they were subject to increased 'composite morbidity'. Women with a placenta praevia and two previous CSs had a more than 50% chance of an adverse outcome. Fortunately the perinatal expectations were more reassuring, but the trend towards more CSs carries risks for the next pregnancy that can now be quantified.

Caesarean sections and fertility

It is thought that rising caesarean section rates are associated with reduced family size. The theory is that if a woman intends having only two children, having both by CS is acceptable obstetric practice. This depends on her voluntary reduction of her fertility and it seems in Norway, at least, this is the case.

A long-term study by Tollanes *et al.* (*Obstet Gynecol* 2007; 110: 1256-63) has shown that CS is associated with reduced fertility, provided that the outcome of the CS was a healthy infant with subsequent survival. It may be that CS rates and population control are more closely linked than previously realised.

CS rates and medico-legal pressure

It has long been suspected that the threat of malpractice suits is a driver in the rise in CS rates. Especially in the USA, the pressure to avoid suboptimal perinatal outcomes is thought to be an increasing factor in decisions to perform a primary CS and tip the scales in favour of abdominal delivery in equivocal or 'non-reassuring' situations. This lowering of the clinical threshold to intervene could be reflected in professional liability fees which, in turn, indicate the likelihood of being sued.

Murthy *et al.* (*Obstet Gynecol* 2007; 110: 1264-9) showed that, as medical defence fees rise, the CS rate follows. Although cause and effect are not proven, these data make for compelling evidence that the fear of litigation does lead to the practice of defensive obstetrics, with lesser and lesser indications being the trigger to resort to CS.

Interventions in pregnancy

Antenatal care is associated with better outcomes, but it is difficult to determine what aspects of the care actually make a difference.

Intrauterine nutrition – micronutrients

Fetal nutrition has a profound effect on short- and long-term outcomes. Insufficient folic acid around the time of conception can result in neural tube defects, cleft palate and, more recently, low biotin and vitamin B₁₂ status have been similarly implicated. Apart from nutrients, drugs, alcohol and smoking have all been revisited by epidemiologists and found to have measurable detrimental effects. So what new information should we pass on to women about nutrition in pregnancy?

Part of the problem in proving the value of micronutrient supplementation is the lack of evidence. It has to be proven that inadequate intake can be corrected by supplements, so trials have to be conducted with large numbers of deprived people and funding for these expensive exercises is unlikely to be pharmaceutically underwritten. Nevertheless, such a trial has been achieved in Indonesia – the SUMMIT study, which has come out clearly in favour of multiple micronutrients for reducing low birth weight and lowering early mortality (*Lancet* 2008; 371: 215-27).

Pregnant women were given either iron plus folic acid or a micronutrient combination of iron and folic acid plus an assortment of vitamins and metals, including zinc, selenium, copper and iodine. To their credit, the investigators collated data from antenatal booking to 3 months of age in over 25 000 pregnancies.

Those taking the micronutrient combination had less risk of low-birth-weight babies and fewer neonatal deaths than those receiving iron and folate alone. The effect was most marked in women who entered the study poorly nourished, as judged by skinfold thickness, and those who adhered to their allocated intake. The implications are that, unless a woman has a good balanced diet, multiple micronutrient supplementation is of benefit to her and her child.

Omega-3 fatty acids

The situation is also becoming clearer for other nutrients that are termed essential as they cannot be synthesised within the body and must be diet-derived – such as omega-3 fatty acids.

These fatty acids have an important role in the prevention of adult diseases and an insufficiency can lead to an increased risk of heart disease, arthritis, breast cancer, hypertension, osteoporosis and mental disorders. Their role is also crucial in the development of the fetal-placental unit, maternal homeostasis and fetal brain and retinal growth, so their consumption in pregnancy has been carefully studied (Genuis, *BJOG* 2008; 115: 1-4). Fish and fish-oil supplements are rich in omega-3 fatty acids and recent suggestions are that their intake in pregnancy should be encouraged to provide essential developmental components. Potential harm from an excess of heavy metals in seafood has not been substantiated.

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