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Obstetric interventions among private and public patients

High rates of operative vaginal interventions in private patients need analysis

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Pregnant women in Australia who give birth in private hospitals have higher rates of operative delivery (caesarean sections, forceps procedures, and vacuum extractions) than those who use public hospitals. Do they need to have more caesarean sections? In this edition of the *BMJ*, Roberts and colleagues (p 137) examine the risk profiles of these two populations among women having babies in New South Wales, Australia.[1] They found that similar rates of women were classified as low risk (48% in private hospitals and 49% in public). Within these low risk groups, private patients were more likely to be 30-34 years old, but the proportion of women classed as being at low risk was the same in each group. The authors, therefore, reasonably argue that this counters the commonly held view that the reason for higher rates of caesarean sections in private patients in Australia is because women at higher risk of complications in pregnancy are more likely to take out private insurance for pregnancy care.

In this large, population based study of 170 000 women they then compared the obstetric management of these two groups of low risk women. Private patients who were classed as low risk and who were having their first baby had significantly higher rates of caesarean section before and during labour (16.4% *v* 10%). The authors also point out that in addition to this higher rate of caesarean delivery, this group of private patients also had double the rates of forceps procedures and vacuum extractions than public patients (34% *v* 17%). Private patients were also more likely to have had labour induced or augmented with oxytocin (49% *v* 35%), twice as likely to have had an epidural anaesthetic (51% *v* 25%), and more likely to have had an episiotomy (47% *v* 29%). The authors do not report on perinatal outcomes, but they assume that in these low risk populations there are no differences in perinatal mortality or morbidity associated with these practices.

It might be expected that the group that had higher rates of caesarean sections in order to avoid difficult or complicated births would have had lower rates of operative vaginal delivery. These findings, therefore, need to be analysed, particularly in light of concern about the association between pelvic floor damage and operative vaginal delivery and episiotomy.[2]

A recent report by the Australian government into childbirth procedures said that private practice in obstetrics encourages operative intervention for comparatively minor indications, not so much because doctors get paid more for these interventions but because it takes less time to carry out a caesarean section than supervise a difficult labour. It is also thought that caesarean sections are carried out to avoid litigation.[3] There is little reliable evidence to guide practitioners on whether higher rates of caesarean section are associated with better outcomes or increased satisfaction. Some women and their obstetricians support the idea of caesarean section being performed on request, whereas consumer advocates refer to the "caesarean section industry" and argue that the procedure disrupts bonding between mother and baby and devalues the empowering nature of normal birth.[4,5]

The best way of resolving this uncertainty would be to obtain reliable evidence to guide clinicians, but randomised trials are unlikely to be feasible. Large cohort studies using long term follow up of women after childbirth could help resolve important questions about the effects of caesarean sections and different forms of vaginal delivery.[6]

It is also probable that the pressures of private practice, which are thought to result in higher caesarean rates, may also in part explain the higher rate of operative vaginal interventions; these may be of even greater concern than the caesarean rate.

Defenders of higher rates cite observational evidence that caesarean sections (particularly elective) reduce the risk of damage to the pelvic floor caused by vaginal birth and the long term sequelae of urinary and faecal incontinence.[2] If there were no long term adverse sequelae from a caesarean section (and this is far from certain) private patients might well benefit from these higher caesarean rates. However, the evidence suggests that some women are harmed by higher rates of forceps procedures and from routine episiotomy. The Cochrane systematic review on episiotomy concludes that "there is clear evidence to recommend restrictive use of episiotomy."[7] Another Cochrane review also indicates that vacuum extraction is associated with less perineal trauma than forceps delivery.[8]

Obstetricians and midwives in both settings (private and public hospitals) should continue to explore the evidence underpinning their practice and to integrate the best available evidence when negotiating the complexities of decision making. Meanwhile,

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women need to be advised that a caesarean section is not a panacea. These apparently unduly high rates of operative vaginal delivery in private practice could be reduced, with benefit for mothers, by devising system changes that relieve the pressures of private practice in obstetrics. These changes should help obstetricians reduce their use of interventions in the process of vaginal delivery that are not supported by reliable evidence.

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Quinolone ear drops for chronic otitis media

They are safer and more effective than aminoglycosides

An estimated 1.5% of the adult population in the United Kingdom has active chronic otitis media with perforated tympanic membranes; this is comparable to the prevalence in western Europe and the United States. Although surgery is often necessary, antibiotic ear drops are frequently prescribed to control the discharge that patients may have with this condition. Until recently aminoglycoside ear drops were widely used, but concerns about ototoxicity, which occurs rarely, have restricted their use. Quinolone ear drops are an effective alternative, and there is good evidence from randomised controlled trials that they are the best choice for treating chronic middle ear infections.[1] They are already in use in the United States, Canada, New Zealand, Japan, and other countries, although they are still not available in the United Kingdom because they have not been licensed by the Medicines Control Agency.

The principal organisms isolated from patients with chronic otitis media are *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and other Gram negative organisms, chiefly proteus. Pseudomonas, the pathogen most commonly identified, is potentially difficult to eradicate and develops resistance comparatively quickly to a variety of antibiotics.[2] It is now recognised that patients with chronic ear infections, irrespective of the type of tympanic membrane perforation (central or attic), are never "safe" from intracranial complications.[3] Eradication of the infection should therefore be the goal. Although aminoglycoside eardrops, particularly gentamicin, are effective in pseudomonal infections, recent reports from two retrospective studies have confirmed that ototoxicity occurs with topical gentamicin and primarily affects the vestibular system.[4 5] There have been a few case reports of ototoxicity occurring in humans treated with neomycin or framycetin, the other aminoglycosides in use; and recent studies on animals using comparable doses to that of ear drops have confirmed this.[6 7] The potential medicolegal implications of ototoxicity, therefore, have created a dilemma: we need to determine which topical antibiotic is safe and effective in treating patients with chronic discharge from their ears.

Ciprofloxacin and ofloxacin ear drops have several advantages over aminoglycosides. The Cochrane systematic review on interventions in chronic otitis media shows that quinolone ear drops are more effective than non-quinolone agents both in reducing ear discharge and in eradicating bacteria (data from five randomised controlled trials: odds ratio 0.26, 95% confidence interval 0.16 to 0.41).[1] It also confirmed that antibiotic ear drops were more effective than systemic antibiotics in chronic otitis media. Results from studies in animals and humans have so far failed to show any ototoxicity resulting from quinolone ear drops.[8]

Among the quinolones ciprofloxacin, apart from having the greatest activity against pseudomonas, is effective against *Staphylococcus aureus*, the other major pathogen in chronic otitis media.[9] Recent studies have failed to show that oral ciprofloxacin has any deleterious effects on growing cartilage in children, and with the comparatively small doses used in topical application, it is likely soon to be officially recognised as safe for paediatric use.[10] In the United States topical ofloxacin has already been approved for the treatment of otorrhoea after grommet insertion in children older than 1 year (although in chronic middle ear infections it can only be used in children older than 12 years).

On the other hand, caution must be exercised so that quinolone ear drops are not used inappropriately because of the risk of promoting resistance both for the patient and the community. Resistance to ciprofloxacin in pseudomonas strains (arising from mutation of the bacterial enzymes involved in DNA replication, gyrase and topoisomerase), is a growing problem. Roughly 20% of pseudomonas isolates identified in hospitals in Europe and the United States are resistant to ciprofloxacin, and most of these strains are multidrug resistant.[11]

Ciprofloxacin is already commonly used in respiratory, gastrointestinal, and ophthalmic practice: the additional use in otolaryngology would not add greatly to the pool of resistant bacteria. Curative doses of topical ciprofloxacin or ofloxacin might actually help eradicate chronic pseudomonas infections, thus reducing the problem of resistance associated with less effective antibiotics. Concentrations achieved through

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