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Postpartum Uterine Atonia and Prostaglandins

Editorial

Postpartum uterine atonia and prostaglandins

Postpartum haemorrhage is generally reported to follow 6 per cent of vaginal deliveries (Prendiville *et al.*, 1988). Although a number of 'at risk' groups are now well recognised and appropriate prophylaxis is provided, severe haemorrhage from uterine atonia still occurs and may become refractory, iliac artery ligation or hysterectomy being required to try to save the woman's life. Approximately 5 per cent of maternal deaths in England and Wales are from this cause, a proportion which has remained relatively constant over the past 25 years.

The prostaglandins were first reported to be of value in controlling atonic postpartum haemorrhage in 1976 (Takagi *et al.*, 1976), and a number of reports have appeared, since then, exploring different drug regimens and administrations. The problems reported with prostaglandins in this issue of the Journal illustrate the continuing uncertainty about the most appropriate regimen to use when this emergency occurs. Prostaglandin E_2, 5 mg intramyometrially as described by Lennox and Martin (p. 263) represents a considerable overdose, resulting in profound hypotension, as has been the case in a few other reports: the recommended therapeutic dose is 0.1–0.2 mg (Thiery and Delbeke, 1985). Hertz *et al.* (1980) reported using prostaglandin E_2, 20 mg vaginally, with success in one case. In the presence of heavy uterine bleeding, absorption of the prostaglandins is likely to be impeded and the pessary or gel will probably be washed out of the vagina. The lack of any benefit with prostaglandin E_2, 2 mg, as used by Siddall-Allum and colleagues (p. 265) is thus no surprise, but the approach by Raman and Tai (p. 264) using gemeprost (presumably 1 mg) rectally is novel and encouraging, especially in view of the apparent short treatment–contraction time. This approach is worthy of further study.

The recent commercial release of the prostaglandin analogue 15–methyl–prostaglandin $F_{2\alpha}$, 250μg (Hemabate, Upjohn Ltd), for intramuscular use, is designed for this situation, for immediate administration. Hopefully this will remove the present uncertainty over which prostaglandin and what dose to use, avoiding the hazards of under and over prescribing. There are a number of reports using this derivative, 125–250 μg intramuscularly, to control life-threatening bleeding (Toppozada *et al.*, 1981; Hayashi *et al.*, 1984; Buttino and Garrite, 1986; Ananthasubramaniam *et al.*, 1988). Analysed together, 141 patients were treated with 1–7 doses, 65 per cent with only one injection. Management was successful in 86 per cent. Gastro-intestinal side effects occurred in 10–20 per cent, and 9 per cent had transient hypertension; in none did the hypertension require specific action. A further report of 237 cases managed with this analogue given in the same dose but using varying routes of administration, found treatment was successful in 88 per cent with a similar incidence of side effects (Merrikay and Mariano 1990). Although side effects may occur, none have been serious and the drug would appear to be acceptable, especially if the alternative is major surgery in a patient often *in extremis*, whose life may be further jeopardised. The intramyometrial injection of 15-methyl-prostaglandin $F_{2\alpha}$ produces similar results, but the drug is not licensed for this administration route in the United Kingdom.

There are few reports of the use of prostaglandins to control secondary postpartum haemorrhage. In view of the success achieved by Siddall-Allum and colleagues (p. 000) using intramyometrial prostaglandin $F_{2\alpha}$, the 15-methyl derivative should be considered in this situation also.

The evidence available suggests that a supply of 15-methyl-prostaglandin $F_{2\alpha}$ ampoules should be kept on each delivery unit. It could be argued that it should be used for all 'at risk' patients before hypotonia develops. There should also be some consideration of a random controlled trial of this oxytocic for routine third stage management, compared with Syntometrine and oxytocin, in view of the concern expressed by anaesthetists about the side effects associated with ergometrine. The few bad experiences reported using inappropriate doses of prostaglandins to treat uterine atonia should not detract from the advantages to be gained from their use.

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