Oxytocin has not been much favoured in this country in the prophylaxis of post-partum haemorrhage. Partly this is because, in the past, injection of the old pituitary extract (often in too large a dose) was occasionally followed by profound shock. However, the availability of the pure synthetic hormone and attention to precise dosage have helped to foster the latest phase in the prophylaxis of post-partum haemorrhage—namely, a renewal of interest in oxytocin. Oxytocin has the disadvantage that its spasm-producing property (and therefore its haemostatic action) is inferior to that of ergometrine. But it has the merit of quick action by intramuscular injection, the mean injection-response interval being approximately two and a half minutes.[26]

The advantage of combining the rapid action of oxytocin with the more sustained action of ergometrine is apparent. This has been facilitated by the introduction of "syntometrine," which combines oxytocin 5 units and ergometrine 0.5 mg. in a single ampoule ready for immediate injection. This preparation has fulfilled its promise in clinical trials[27 28] and is now recommended as the best intramuscular oxytocin available for routine use by the unaided practitioner or midwife in the prophylaxis of post-partum haemorrhage.

Inhibitors of Uterine Contractility

Just as the obstetrician may wish to promote or augment uterine contraction and retraction, so too it may be advantageous sometimes to be able to inhibit uterine contractility. It would clearly be beneficial, for example, to have the means of inhibiting the contractions of premature labour or reversing dangerous over-activity of the uterus in labour. However, there are few drugs which satisfactorily inhibit uterine contractility.

Relaxin

With the availability of purified preparations from the ovaries of pregnant sows, interest was renewed a few years ago in relaxin—"the third ovarian hormone." Apart from its believed influence on pelvic joints, there were several claims, based on clinical studies, of the ability of relaxin to suppress premature labour.[29 30] The claims were not confirmed in tocographic studies.[31] Even in very large dosage relaxin had no effect on uterine contractility.

Isoxsuprine

Isoxsuprine is a relatively new drug with reputed inhibitory effects on uterine contractility. It is related to adrenaline and has been shown to have spasmolytic and vasodilator properties in experimental animals.

Unfortunately in the human subject its inhibitory effects are only positively demonstrated at high-dosage levels. Given intramuscularly or orally in recommended dosage, its effects are not very convincing. The published papers stress that it should be given by intravenous infusion.[32 33] The effective dosage is in the range 250–750 μg./min.—and more often above 500 μg. than below—at which level side-effects, particularly hypotension, are serious.

The clinical usefulness of isoxsuprine therefore remains unproved.

Halothane

On the other hand, the inhibitory effect of the inhalation anaesthetic halothane on uterine contractility is undoubted. In objective recordings it has been shown[34] that halothane not only effectively suppresses the contractions of the parturient uterus, but does so rapidly, while—equally important—the effect quickly disappears on withdrawing the anaesthetic.

An anaesthetic agent which relaxes the uterus so effectively—without the danger of chloroform or the unpleasant sequelae of deep ether—is a most valuable adjunct to obstetric practice, particularly in circumstances when uterine relaxation is essential. When intrauterine manipulations like internal version or a difficult manual rotation of the head have to be performed, or when an overdose of oxytocin or impending tonic contraction threatens uterine rupture, the induction of halothane anaesthesia can be of the greatest benefit. Conversely the drug is better avoided when relaxation might be dangerous; uterine haemorrhage may follow its use in vaginal delivery or caesarean section.

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Correction.—In the article on laxatives and purgatives ("To-day's Drugs," 25 April, p. 1096) the anthracene group should have been listed as the second group of irritant purgatives and the phenolphthalein group as the third.