

entirely safe for both mother and child." Gas-and-air analgesia is safe in the normal case, but should not be used in cases of heart disease or toxæmia of pregnancy. But I believe that, even with care, adequate preliminary instruction, and intelligent co-operation, its analgesic properties are disappointing. In America interest in caudal analgesia has been revived—a certain indication of desperation. Anyone considering this method should first read Prof. F. J. Browne's letter (May 26, p. 746).

Dr. Galley refers to conservatism as a bar to progress. Here surely is an excellent example. Trichlorethylene has long been recognized as a potent analgesic agent. Hewer states that it exerts "the most potent and rapid analgesia of all the volatile drugs with which I am familiar, including nitrous oxide." Dr. Elam reported favourably on trilene analgesia in midwifery in the *Lancet* in 1942, and this was followed up by an excellent article in the same journal (Dec. 4, 1943) by Dr. A. Freedman describing his results in 190 cases using an inhaler of his own design. The inhaler is inexpensive, portable, foolproof, and has been proportioned to ensure that a mixture of trilene and air of only analgesic potency is inhaled. In his conclusion he states that "adequate analgesia safe for mother and infant was provided by the inhaler. There seem to be no contraindications to its use. It could be used by suitably trained midwives." He met with no complications due to this method of analgesia and suggested a wider investigation. Dr. D. C. Devitt also reports favourably on trichlorethylene in midwifery in the *Journal* of March 24 (p. 422).

On reading the replies to Dr. Elam's letter one is struck by the absence of constructive criticism and by the inference of Dr. Florence McClelland's question (April 28, p. 607), "How many of our number who undertake the care of an expectant mother have taken the trouble to make themselves thoroughly conversant with all the analgesic techniques at our command today?" No; trichlorethylene has only been mentioned to be condemned (Dr. W. J. Clancy, April 21, p. 565). I myself, I regret to say, have only recently started using trilene as an analgesic in labour. It has been used in my department for 80 cases, Freedman's technique has been closely followed and his inhaler has been used. In this short series of cases the findings have been as follows:

1. Satisfactory analgesia in over 90%. Quite a few patients were quite oblivious of the actual birth.
2. It can be given for long periods without ill effect—e.g., 7-8 hours.
3. No complications seen due to the analgesic and no ill effects in cases of mitral stenosis, toxæmia of pregnancy, and bronchiectasis.
4. The uterine contractions, pulse, blood pressure, and respiration rate were not affected.
5. Nervous patients relaxed well during the first stage and also during the delivery of the head.
6. Even when the analgesic effect was very marked and the patient became drowsy, very good co-operation was obtained. The patients were quiet and obeyed instructions. Occasionally during the second stage the patient used her accessory muscles of expulsion to better advantage if the inhaler was temporarily removed.
7. Very rapid recovery from analgesic; no after-effects.
8. Practically all the babies were born in good condition, and many cried lustily during or immediately after birth even in the cases of mothers who had inhaled trilene deeply and for long periods. One baby was smelling strongly of trilene but its respirations and colour were good. In any baby which was cyanosed or apnoeic there was always another explanation possible apart from the analgesic—e.g., cord tightly around the neck.

In conclusion I endorse all that Dr. Freedman has said and appeal for further trials with this excellent analgesic so that eventually it can be put into the hands of the much-maligned midwife, together with the blessing of the Central Midwives Board.—I am, etc.,

Leicester.

D. R. CAIRNS, M.R.C.O.G.

Puerperal and Lactational Mastitis

SIR,—Following the article by Dr. A. A. Fulton (May 19, p. 693) it may be of interest to give similar figures for Birmingham for the past seven years. As in Dundee, the investigation has been made by means of notification by health visitors in addition to information received from midwives, hospitals, and nursing homes. Only cases showing suppuration are notified.

The incidence of mastitis appears to be very much lower in Birmingham than in Dundee. Although the percentage of cases occurring in patients delivered in hospital is greater than in

patients delivered at home, it is still very small compared with the 16% found in Dundee. The incidence of mastitis for the City of Birmingham during this seven-years period (129,657 confinements) would appear to be 0.6%: that for cases delivered in hospital being 0.8% and for cases delivered at home 0.4%. The following table sets out the yearly fluctuations:

Year	Confinements at Home		Confinement in Hospital or Nursing Home	
	Confinements	Cases of Mastitis	Confinements	Cases of Mastitis
1938 ..	10,906	62	6,684	92
1939 ..	11,749	55	6,325	67
1940 ..	9,748	46	6,957	59
1941 ..	8,864	34	5,667	38
1942 ..	10,422	36	8,188	43
1943 ..	11,248	23	9,581	45
1944 ..	12,125	87	11,193	95
1938-44 ..	75,062	343	54,595	439

—I am, etc.,

City of Birmingham Public
Health Department.

V. MARY CROSSE, M.D.

Anaesthesia for Caesarean Section

SIR,—I have read with interest the letter by Dr. Kinkead Allen (June 2, p. 784) on the subject of anaesthesia for Caesarean section, but feel that any advantages of his technique are far outweighed by its possible complications. Even with great experience the abdominal field-block described is a time-consuming manœuvre, and during this time one would gather that "to prevent the parturient being distressed by the theatre display, needle pricks, etc. . . she is kept from moving her limbs by the very lightest chloroform or vinesthene narcosis." Surely the dangers of light chloroform narcosis have been aired in public for many years, and a light vinesthene narcosis kept up for 20 to 30 minutes before the uterus is opened cannot fail to have some anaesthetic effect on the baby. Furthermore, Dr. Kinkead Allen gives his patients 15 mg. (1/4 grain) of omnopon or morphine before the operation, a practice which so far as I know is universally condemned in view of the very real danger of foetal apnoea.

I have yet to find a better anaesthetic for Caesarean section than nitrous oxide and oxygen, supplemented if necessary by di-ethyl ether, the only premedication being atropine 1/100 gr. True, a skilled administrator is necessary, but anyone who can give safely "the very lightest chloroform or vinesthene narcosis" should be able equally to administer gas-and-oxygen. In the classical operation I have frequently seen the baby born within 3 minutes of commencing the anaesthetic, and in the lower-segment operation there is usually only a 6-7 minute interval. The baby almost invariably cries lustily at birth, and the uterus contracts well. If it is so desired it is quite easy to have the patient conscious before she leaves the theatre.

The possible disadvantages of gas-and-oxygen are post-operative pain and restlessness and the absence of relaxation unless a dangerous degree of anoxia is permitted. The former is usually well controlled with a rectal drip containing 30 g. each of potassium bromide and aspirin; as for relaxation, the abdominal muscles have in any case been well stretched during pregnancy, and the majority of obstetricians do not consider that complete relaxation is necessary in Caesarean section.—I am, etc.,

London, E.C.1.

J. KENNETH IRVING.

Atropine for Toxic Effects of Prostigmin

SIR,—The recent correspondence on carbachol and its antidote following the annotation in the *Journal* (May 5, p. 636) prompts me to send the particulars of the following case, where toxic effects of prostigmin were abolished by injections of atropine. Prostigmin differs in its action from carbachol in that it acts by antagonizing cholinesterase and thus increasing the action of acetylcholine. The toxic effects of prostigmin are similar to those of carbachol, though the action is somewhat different, the former acting by potentiating the acetylcholine already present, the latter by producing an additional acetylcholine-like stimulus. In both cases a muscarinic and nicotinic action will be obtained.