

*General Practice Series*

**ANAESTHESIA AND ANALGESIA IN OBSTETRICS**

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'I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children.' *Genesis* 3, xvi.

'And the Lord God caused a deep sleep to fall upon Adam, and he slept; and He took one of his ribs, and closed up the flesh instead thereof.' *Genesis* 2, xxi.

The combination of general medication and intermittent inhalation analgesia is effective for the relief of pain and is suitable for all types of labour. Relief from pain, however, is best obtained by careful antenatal preparation, by sympathetic supervision during labour, by the judicious use of analgesic drugs (such as pethidine), and by inhalation of a mixture that provides analgesia within a short space of time. Success depends largely on the quality of the psychological management. The mother will be satisfied only if she appreciates the rationale of the method—that she will be aware of the uterine contractions and will feel the baby delivered, but will not feel undue pain.

The onset of labour gives rise to various emotions, particularly with the first born. The patient is glad that the long waiting period is over and is pleased that labour has begun as she is eagerly looking forward to seeing her infant. Her emotions are pleasurable, but they are sometimes counter-balanced by emotions of the opposite type. She may be apprehensive, about the process of labour and its possible outcome and, if the thought of the actual birth perturbs her, such a state of uncertainty and anxiety culminates in fear. The average primigravida, in these 'civilized' days, is unfortunately encouraged in her fear of 'an unknown experience' by the careless use of the word 'pains' by those surrounding her, whereas means are in existence to eliminate the pain without markedly affecting the uterine contractions or being unduly harmful to the unborn child.

It is the right of women to demand relief from the pain of childbirth, and it is the responsibility of the attendant to furnish a safe conduct of pregnancy. Pain not only causes great suffering and distress, it leads to physical and emotional exhaustion so that the patient's confidence is undermined and her courage disappears. In such a state her pain threshold is lowered and moderate pain becomes increasingly unbearable. Women vary in their ability to stand pain and the sensitive or highly strung woman may interpret discomfort as pain.

*Historical*

Though many attempts were made to mitigate the ordeal of labour before the time of James Young Simpson, it is to him that credit is due for introducing anaesthesia into obstetrics. Simpson obtained and used ether for an obstetric operation for the first time in Edinburgh just a month after its introduction to England from America in December 1846. In November 1847 chloroform was also first used by him to induce anaesthesia, the drug having been sent to him for trial by Waldie—a Liverpool chemist.

Since the introduction of chloroform, which soon replaced ether in obstetrics, many drugs have been tried and all have been found to some extent wanting, so that the perfect obstetric analgesic or anaesthetic agent has yet to be discovered.

The aim of this paper is not to review all the available agents which are now in use but merely to discuss those drugs which are the most popular and, therefore, the safest.

*Qualities of the Ideal Analgesic*

Sturrock<sup>1</sup> enumerated certain minimal qualities that should be possessed by the ideal analgesic for use in obstetrics:

1. It must not endanger the life of mother or child, or in any other way harm them.
2. It must abolish or diminish pain and the memory of suffering for long periods.
3. It must not diminish uterine contractions and thereby delay labour, or predispose to atonic postpartum haemorrhage.
4. It must not prevent the patient from cooperating intelligently with the attendant, especially during the second stage of labour.
5. There should be no necessity for operative delivery solely on account of the method used to alleviate pain.
6. It should be simple to use.

*Classification of Methods for Relief of Pain in Obstetrics*

A. *Analgesic* agents can be classified as follows:

1. Sedatives, e.g. bromides and chloral.
2. Hypnotics, e.g. barbiturates and paraldehyde. These drugs do not have a truly analgesic action.
3. Narcotics, e.g. the opiates, morphine and pethidine.
4. Inhalant analgesics, e.g. nitrous oxide, trichloroethylene, chloroform, and ether.

B. *Anaesthetic* agents can be classified as follows:

(1) Local, (2) regional, and (3) general. General anaesthetic agents can be further subdivided under the following headings:

(i) Inhalational	{ Volatile { Gaseous	Chloroform.
		Ether.
		Ethylchloride.
		Nitrous Oxide.
		Ethylene.
		Cyclopropane.

(ii) Intravenous.

(iii) Rectal, e.g. Avertin.

C. *Suggestion* is another method for relief of pain, and its uses can be classified as follows:

(1) Relaxation and education, and (2) hypnosis.

#### ANALGESICS

### 1. Sedatives

These are drugs which have a quieting effect on the parturient. They lessen excitement or functional activity and make the patient receptive to sleep.

(i) *The bromides* are time-honoured drugs for the early stages of labour. They lessen the activity of the entire nervous system and decrease nervousness and emotional excitability. It is doubtful, however, whether a single dose has any real value. The taste of bromides is most unpleasant and may cause vomiting. In combination with chloral, bromides are particularly useful for excitable and apprehensive women, especially primiparae at the onset of labour. *Dose*: 15-30 gr.

(ii) *Chloral hydrate* is a sedative and hypnotic. Its main action is to soothe and calm the patient and make her receptive to sleep. This latter action appears to be most effective in the early part of the first stage of labour. As with the bromides, one of the main disadvantages of chloral is that it has an irritant action on the gastric mucosa, causing nausea and vomiting. *Dose*: 15-30 gr.

It is important to remember that neither of these two drugs is a true reliever of pain and should therefore not be given when the patient is obviously experiencing severe pain during labour.

A useful mixture which can be prescribed early in labour, especially in primigravidae, before any effective dilatation of the cervix, is the well-known mixture: Three 15's:

Rx. Chloral hydrate 15 gr.  
 Potassium bromide 15 gr.  
 Tinct. opii 15 min.  
 Aq. chlorof. ad 1 fl. oz.

### 2. Hypnotics

These are sleep-producing drugs. The most important ones used in obstetrics are:

(i) *Barbiturates*. A large number of drugs are included under this heading and they are all derived from barbituric acid. Their effect is variable and in some instances extreme restlessness and excitability in the presence of pain are exhibited. The length of action of these drugs varies greatly and they may be used as follows:

(a) For short action—quinal barbitone and secondal sodium.

(b) For moderate duration—pentobarbitone sodium (sodium amytal).

(c) For long action—phenobarbitone.

These drugs have little power to raise the pain threshold if administered in the usual doses. Extensive use of barbi-

turates is therefore not ideal if the cooperation of the patient is needed. In normal doses they are productive of sleep and a certain degree of amnesia. It should be remembered that the barbiturates pass the placental barrier and will cause respiratory depression in infants—especially in premature infants. Moreover, if heavy doses are employed, especially late in labour, a prolonged second stage of labour can be expected owing to failure on the part of the patient to cooperate. This often results in ineffective expulsive powers and exhaustion of the mother and may lead to an increased incidence of forceps delivery.

To summarize, therefore, it is advisable to use only the short-acting barbiturates, e.g. secondal sodium 1½-3 gr. early in labour. This will usually keep the patient comfortable until the time when uterine contractions become more disturbing. At that stage the barbiturate can be followed by an analgesic of greater potency, e.g. a narcotic.

(ii) *Paraldehyde* is a hypnotic drug and is probably the most popular analgesic in obstetrics which can be administered per rectum. It is a clear liquid with a distinctive pungent odour. Its action on the central nervous system is similar to that of avertin, but it causes less depression of the respiratory system. The ordinary hypnotic dose of 4-5 c.c., which is given by deep intramuscular injection, induces sleep 10-15 minutes sooner than any other sedative or hypnotic drug. A state of hyperexcitability occurs in some patients, especially when a small dose has been given. The dose for rectal administration is usually based on the proportion of 60 minims per stone of body weight, with a maximum dose of 1 fl. oz. It is injected slowly with 1-1½ oz. of warm saline.

A high proportion of the drug is broken down in the body and the remainder is excreted by the lungs and kidneys. These dosages usually keep the patient drowsy for 3-4 hours. Paraldehyde should be fresh and all old stocks should be discarded because it deteriorates.

### 3. Narcotics

These are pain-relieving drugs and produce sleep. In 1680 Sydenham wrote: 'Among the remedies which it has pleased Almighty God to give to man to relieve his suffering, none is so universal and so efficacious as opium'. This appraisal is still true today.

(i) *Opium* is obtained from the milky exudate of incised unripe seed capsules of the poppy plant and, from the powdered opium, the active alkaloids—morphine, heroin, dilaudid and codeine—are obtained. These depress the perceptive and sensory areas and relieve pain by elevation of the pain threshold. Moreover, there is an alteration in the reaction to pain; fear and anxiety are replaced by contentment, relaxation and apathy, and finally a lethargic state and sleep is induced<sup>2</sup>.

Since opiates are commonly used during labour and especially in cases of incoordinate uterine action, pre-eclampsia and eclampsia, attention should be drawn to the fact that these drugs cross the placental barrier. Should delivery occur during the period of the effect of the drug, which may last from 3-6 hours, there is the possibility of serious respiratory depression in the infant. N-allylnormorphine is an antagonist of respiratory and circulatory depression caused by narcotics, and injection of 0.1 to 0.25 mg. into the umbilical vein of a new-born infant, depressed by an opiate, will usually result in prompt improvement of both respiration and circulation.

Amphenazole was introduced recently. This drug, given to the mother in 30 mg. doses, intramuscularly, reduces the respiratory depressant effect of morphine on the foetus without greatly reducing its analgesic action on the mother. With this new drug available it would seem that morphine could now be used much more freely in hospital obstetric practice than formerly.

Finally, mention must be made of morphine-scopolamine administration in the production of 'twilight sleep'. This method of analgesia has lost its vogue, owing to high incidence of excitement in mothers, and asphyxia in the new-born baby.

(ii) *Pethidine* is a synthetic drug and has a formula similar to that of atropine. Its actions are analgesic and sedative, its potency approaches that of morphine and it is an anti-spasmodic since it is capable of relaxing unstriated muscle tissue. *Pethidine* has proved to be an invaluable addition to the accoucheur's armamentarium, though it must be remembered that since it is a narcotic drug and there is placental transmission, it can cause respiratory depression in the infant. Large doses of *pethidine* may, therefore, cause asphyxia neonatorum, though to a lesser extent than morphine. *N-allylnormorphine* can be used as an antidote if necessary.

Ideally, *pethidine* should be given by intramuscular injection when labour is well established, i.e. when the cervix is at least 2 fingers dilated. The dose of 100 mg. may be repeated 2-4 hours later. In certain patients this drug may cause occasional 'shock-like' reactions with pallor, sweating, nausea, vomiting and hypotension.

Occasionally *pethidine*, given intravenously, is indicated in cases where premature bearing-down efforts are made before full dilatation of the cervix. *Pethidine* may also be given with *scopolamine*, 1/150 gr., or with a barbiturate.

Recently *pethilorfan*—a proprietary drug—containing *pethidine*, and an antagonist, *levallorphan tartrate*, has been marketed and should prove to be ideal for the parturient and baby. It has been shown that *levallorphan tartrate* prevents or reduces the respiratory depression caused by *pethidine*. When *pethidine* and '*Lorfan*'—the trade name—are combined in the ratio of 100 : 1.25, the respiratory-depressant effect of *pethidine* is inhibited whilst the analgesic action is unaffected.

It must always be borne in mind that the narcotics are habit-forming drugs.

#### 4. Inhalational Analgesia

(i) *Nitrous oxide* is a colourless gas with a sweetish smell. It is one and a half times heavier than air and is non-explosive. This gas is excreted chiefly by the lungs within 2 minutes of inhalation, therefore, it follows that the action of the gas is transitory and accumulation in the tissues is not likely to occur with intermittent administration.

(ii) *Nitrous oxide and air analgesia* in obstetrics was first employed by Minnitt in Liverpool in 1933. He adapted an apparatus so that nitrous oxide gas with 50% air could be administered to produce analgesia without loss of consciousness during labour. Various types of machines have been devised for this purpose, including portable models. Nitrous oxide is stored under pressure in cylinders and passes through a reducing valve where the pressure is brought down to a level safe for inhalation. Only during inspiration

does the gas flow and at the same time become mixed with air. It should, however, be appreciated that while using this apparatus, the parturient is getting less oxygen than if only air were inhaled. There is thus, under certain circumstances during labour, the risk that the foetus may develop anoxia. Gas and air analgesia is therefore contra-indicated in conditions under which there is the possibility of the foetus or mother being or becoming anoxic, viz.:

1. Placental insufficiency—in pre-eclampsia, essential hypertension, chronic nephritis, postmaturity and prematurity.
2. Foetal distress—as demonstrated by an irregular foetal heart, poor heart sounds and meconium staining of the liquor amni.
3. Maternal conditions which may predispose to foetal anoxia—cardiac disease, anaemia, pulmonary disease and diabetes.

(iii) *Trichloro-ethylene (B.P.C.) (Trilene)* is a colourless liquid, though it is coloured with waxoline blue to distinguish it from chloroform and the crude drug trichlorethylene which is used in the dry-cleaning trade.

In low concentration of 0.35-0.65% it is used as an analgesic and it does not then act as a respiratory irritant. Excretion is rather slow and it is much less toxic to the liver and kidneys than chloroform. It is furthermore much less likely to cause primary cardiac failure.

Because the concentration of the vapour increases if the container is shaken, if the temperature of the room is high, or if the tidal air is increased, special thermostatically controlled machines have been designed. One of the earlier and most popular auto-inhalers is Freedman's,<sup>2</sup> a 'draw-over' apparatus which delivers a vapour concentration of 0.65% trilene in air. A hole near the face-piece must be covered by the patient's finger before the trilene vapour can be inhaled, this acting as a safety device. This method is so convenient and reliable that an investigation was instituted by a committee of the Royal College of Obstetricians and Gynaecologists to see whether it could be used in Great Britain by unsupervised midwives. A study of 2,354 cases showed that the technique was most efficient, only 7% of the mothers being dissatisfied with the relief obtained. There was no evidence of increased risk to mother and child in normal cases. Midwives in Britain are only allowed to use an apparatus approved of by the Central Midwives Board. In South Africa midwives are, as yet, not allowed to administer trilene.

The advantages of trichloro-ethylene as an inhalational analgesic are that:

- (1) It is pleasant to inhale.
- (2) It does not irritate the respiratory tract.
- (3) It acts more quickly than nitrous oxide.
- (4) Its analgesic and amnesic effect is greater than that of nitrous oxide.
- (5) Uterine activity is not affected.

Contra-indications to the use of this drug are the same as in the administration of nitrous oxide and air.

(iv) *Chloroform* has been used for many years and, though it is pleasant to take, acts quickly, and is cheap and portable, it is far from fool-proof. It may cause ventricular fibrillation and central necrosis of the liver lobules. Its use is therefore contra-indicated in cases with known liver disease,

pre-eclampsia and eclampsia. Its use should be restricted to producing analgesia during the actual delivery of the baby's head and, since it tends to diminish uterine contractions, it should be used as a temporary measure only, until the danger is overcome, in cases of uterine tetany or threatened rupture of the uterus in obstructed labour.

(v) *Ether* is of value in operative procedures which require anaesthesia rather than analgesia. For purposes of analgesia it is not of much value because it has a long induction period, often causing pronounced excitement in the mother and anoxia in the foetus, and also uterine relaxation.

Administration of all inhalational analgesics, to be successful, should be commenced before the patient experiences the pain associated with the contraction, since it takes 20-45 seconds to obtain maximum relief. The use of this type of analgesia should be confined to the end of the first stage, to the second stage of labour and to the actual delivery of the infant. Finally, patients should be instructed in the use of the apparatus during the ante-natal period and they should be shown how to relax and be proficient in using the face mask.

#### ANAESTHESIA

### 1. Local Anaesthesia

This is by far the safest of all forms of anaesthesia and analgesia. It has all the advantages of other types of anaesthesia without any of the disadvantages.

#### *Advantages of Local Anaesthesia*

The advantages of local anaesthesia include the following:

- (a) Minimal anaesthetic mortality.
- (b) No pulmonary complications. The majority of obstetrical patients are not prepared for a general anaesthetic, especially when an anaesthetic is required, as is so often the case in an emergency procedure late in labour. These patients have been fed during the long hours of their travail and in addition there is the 'greatly increased physiological' delay in the emptying time of the stomach. Vomiting, aspiration, pneumonia, and laryngospasm during induction are common complications.
- (c) No foetal asphyxia.
- (d) No interference with the efficiency of the uterine contractions.
- (e) Less post-operative shock.

Admittedly, there are a few disadvantages to local anaesthesia, e.g. in highly emotional patients who will not tolerate this form of anaesthesia or where the surgeon is unacquainted with the technique of infiltration of the drug; but they are so far outweighed by the advantages that for all practical purposes they can be ruled out.

#### *Indications for Local Anaesthesia*

It has been satisfactorily demonstrated that all (major as well as minor) obstetrical procedures, with the possible exception of internal version, can be performed under local anaesthesia either by the abdominal or vaginal routes. An absolute indication for local anaesthesia may be found in patients with respiratory tract lesions (though with use of the relaxant drugs today this indication is not necessarily a rigid one), and cardiac disease. Relative indications are pre-eclampsia, chronic nephritis and cases of foetal asphyxia requiring operative deliveries especially *via* the vaginal route. Pudendal block is especially efficacious for forceps delivery,

even where a manual rotation of the head is required as in the case of a deep transverse arrest, and in breech deliveries.

#### *Anatomy of the Pudendal Nerve*

A consideration of the nerve distribution shows that the principal innervation to the lower part of the vagina and to the perineum is the sacral plexus, whose main terminal branch is the pudendal nerve. It arises in the pelvis from S.2, S.3 and S.4 and then leaves the pelvis *via* the greater sacro-sciatic foramen, crosses the dorsal surface of the ischial spine in company with the internal pudendal vessels, and re-enters the pelvis through the lesser sacro-sciatic foramen. Thereafter, accompanied by the internal pudendal vessels it enters Alcock's (pudendal) canal. Immediately before entering the canal, it gives off the inferior haemorrhoidal nerve which traverses the ischio-rectal fossa to the anus. Shortly before leaving the canal the pudendal nerve divides into its terminal branches, the clitoral and perineal nerves, which respectively supply the skin surrounding the upper two-thirds of the vulva and the lower third of vulval region, perineum and the area round the anus.

#### *Technique of Pudendal Nerve Infiltration*

Using a 0.5 or 1% lignocaine solution, 2 cutaneous weals are made, one on either side of the midline, at points halfway between the fourchette and the ischial tuberosities. Using 12 cm. needles, subcutaneous weals are extended anteriorly towards the clitoris on both sides, as well as posteriorly to the region of the tip of the coccyx. A diamond-shaped superficial area is thus anaesthetized. The index finger is now inserted into the vagina and placed on one or other ischial spine. The needle is now pushed through the skin at the site of the original weal, until it is in the region of the tip of the finger palpating the ischial spine and 5-10 ml. of the anaesthetic agent is injected. The procedure is now repeated on the opposite side. Finally 5-10 ml. of the solution may be injected medial to the inner aspects of the ischial tuberosities.

An important point to remember when employing pudendal nerve block for breech deliveries is that the nerve should not be infiltrated until such time as the buttocks of the baby are visible and the perineum is well distended. After efficient infiltration, the patient no longer has the urge to bear down with the contractions and she should therefore be encouraged by the attendant to employ her secondary or voluntary expulsive powers when a uterine contraction is palpable.

### 2. Regional Anaesthesia

The following methods of regional anaesthesia are employed: (i) Epidural caudal anaesthesia and epidural lumbar anaesthesia; (ii) Spinal anaesthesia.

#### (i) *Epidural Anaesthesia*

*Caudal anaesthesia* can be divided into continuous anaesthesia, and terminal or single injection. Either type is safe and successful only if given by a doctor with adequate experience and training in the technique. Most experience to date has shown that continuous caudal anaesthesia is successful only if a 24-hour anaesthesia service with trained staff is available.

The advantages of caudal anaesthesia are the same as those for local anaesthesia, but the disadvantages are somewhat greater. The technique is more difficult. There are the dangers of injecting the solution into the spinal canal, of

circulatory and respiratory collapse, and of prolongation of the second stage of labour. This is common and leads to a consequent increase in forceps rate as well as to failure of rotation of the foetal head—with a resultant high rate of occipito-posterior presentation. Puerperal urinary retention may also be encountered.

*Technique of administration of the solution.* A solution of 1.5% metycaïne, xylocaine or procaine is generally employed and 8 ml. is injected through the sacral hiatus into the extradural space. After an interval of 10-15 minutes, during which time it is ascertained (by asking the patient to move her toes) whether the solution has not been injected intradurally, a further 20-30 ml. is slowly injected. This dose is sufficient for the low type of caudal anaesthesia and, in cases on continuous caudal anaesthesia, the needle or catheter is left *in situ* and subsequent injections of 10-20 ml. are made every 2-3 hours or as necessary.

*Lumbar anaesthesia* has also been used and the solution, injected between the 3rd and 4th lumbar spines, diffuses through the intervertebral foramina along the perineural nerve sheaths, blocking the nerve routes.

#### (ii) Spinal or Spinal Saddle Block Anaesthesia

This type of anaesthesia has its advocates but the disadvantages and dangers are so numerous that its use in labour (especially in cases of vaginal delivery) should probably be condemned.

### 3. General Anaesthesia

The administration of general anaesthesia to patients in labour is associated with a definite mortality, the mechanism of which is usually the inhalation of stomach contents into the bronchial tree. Mendelsohn<sup>4</sup> described a syndrome resulting from aspiration of acid gastric contents which may not show itself for several hours after the occurrence of the accident. Then the onset of the illness is dramatic and the patient becomes extremely ill, exhibiting cyanosis, dyspnoea and tachycardia. She will also show signs of pulmonary oedema with patchy consolidation at the lung bases.

Lock and Greiss,<sup>5</sup> on analysing a series of 900,000 live births, found that 45 deaths were stated to be directly due to anaesthesia and, of these, 30% were ascribed to inhalation of vomitus and 25% to spinal analgesia.

Where general anaesthesia has to be employed during labour, aspiration of the stomach contents pre-operatively by means of gastric tube and intubation of a cuffed endotracheal tube are essential. In addition to this it is of prime importance to have an efficient suction machine readily available.

#### Caesarean Section

It is not the purpose of this paper to discuss anaesthetic procedures for major obstetrical operations, but it is felt that mention should be made of the type of anaesthesia advised for Caesarean sections. There is no surgical procedure where careful selection of the anaesthetic used is more important than in Caesarean section. This is especially true since the child *in utero*, as well as the mother, has to be taken into consideration. Because of the depressive action of the anaesthetic agent on the respiratory mechanism, many infants fail to survive the first few hours of life. Prolonged anaesthesia preceding actual delivery has, therefore, a deleterious effect on the unborn child. This statement has recently been questioned and there is evidence to show<sup>6</sup> that it may not necessarily be true.

Various methods of anaesthesia for Caesarean section are practised and advised, ranging from local infiltration, continuous or fractional spinal anaesthesia, continuous caudal anaesthesia and intravenous and general anaesthesia. With the advent of the muscle-relaxant drugs, a technique of anaesthesia for Caesarean section, which has been favourably received, has been evolved. This consists of preparing the patient for the operation, cleaning the abdomen, draping the patient and when 'everything and everyone is ready', 250-500 mg. pentothal is given intravenously, followed by the appropriate muscle-relaxant drug. The patient is then immediately intubated with a cuffed endotracheal tube, oxygenated, and the operation commenced. With this method the baby can be extracted with the minimum delay and usually in good condition. The anaesthetic agent to be used after delivery of the infant can be left to the discretion of the anaesthetist.

#### SUGGESTION

##### *Relaxation and Education*

Parturition, being a physiological function of the female should, theoretically, be a painless procedure. Very few women, however, have 'painless childbirth' in the true sense of the meaning.

Grantley Dick Read has evolved the theory that fear causes a sympatheticotonia which makes the circular fibres of the cervical sphincteric muscles contract. This in turn causes a disturbance of the polarity of the uterus, resulting in increased tension of the muscles of the upper uterine segment to overcome this obstacle and eventually the threshold of pain is crossed. Read sums up the situation admirably with the phrase: 'A tense mind means a tense cervix and a long painful labour'. There is no doubt that adequate antenatal preparation by abolishing ignorance, fear (which is usually the result of ignorance), and apprehension, combined with suggestion and training in relaxation, do work wonders with a cooperative patient during labour.

There is convincing evidence to show that the duration of the first stage of labour is shortened and that a relatively painless childbirth can be attained by patients receiving this training. Much can be done by educating pregnant (and non-pregnant) women that child-bearing is a physiological function of the body and it is suggested that those in charge of antenatal clinics institute a series of lectures on the physiology and hygiene of pregnancy, labour and the puerperium, to be given to large groups of women awaiting their turn to be examined during the antenatal visits. This would help to dispel the fear of the unknown which awaits women on entering the labour wards of our institutions and rid them of their belief that pain is a necessary adjunct of a normal labour.

##### *Hypnosis*

In recent years considerable interest has been aroused in hypnosis with special reference to its application in the relief of pain during childbirth. Unfortunately the attitude of the general public and some medical practitioners towards hypnosis has been, and too often still is, one of superstition, fear, and even open hostility. Only on rare occasions, however, have attempts been made to assess the value of hypnosis as an 'analgesic or anaesthetic agent' in labour.

There is no doubt that prenatal training in hypnosis can benefit the parturient woman by assuring relaxation and, to

a certain extent, abolishing the painful contractions of parturition; there is also evidence that the duration of labour is shortened.<sup>7,8</sup> Read's technique depends on the use of education, relaxation and suggestion, and by employing trance states one only carries his method a stage further.

#### CONCLUSIONS

1. Antenatal preparation of the expectant mother, with special reference to education, removal of fear and ignorance, relaxation and instruction in the use of various analgesic apparatus, is essential.

2. Early in labour a mild sedative or hypnotic is all that is required.

3. When labour is firmly established a narcotic—usually pethidine or pethilorfan—is indicated. Where labour is

expected to be somewhat prolonged, morphine is the narcotic of choice.

4. Inhalational analgesia is the method of choice for relief of pain late in the first stage and during the second stage of labour.

5. Employment of local and pudendal nerve infiltration is recommended for the majority of forceps deliveries as well as all breech deliveries.

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