

The Midwife.

GAS AND AIR ANALGESIA.

From the earliest times mankind has sought without very much success for some method of relieving women in their confinements, but the work of Dr. Minnitt, a Liverpool anaesthetist, has brought very much nearer the day when this object can be achieved.

Dr. Minnitt has shown how, from the inhalation of a mixture of nitrous oxide gas and air, pains of labour may be relieved and, because the percentage of nitrous oxide in air is a low one, a condition of semi-anaesthesia or analgesia is produced, the normal process of labour is in no way interfered with, no harm results to mother or child, and the patient does not lose consciousness and can co-operate with the accoucheur.

This method of relieving pain without loss of consciousness is known as Gas and Air Analgesia, and the difference between analgesia and anaesthesia should be clearly understood because it is largely due to a lack of understanding as to what is meant by Gas and Air Analgesia that there exists to-day some opposition against its general adoption in midwifery practice.

Sir James Simpson showed very many years ago how the pains of labour could be relieved by the use of chloroform in small doses, but it was very easy to give just a little too much chloroform, when a condition of *true* anaesthesia was produced, with the possible danger of arresting or delaying the normal process of labour, or causing other undesirable conditions, so that any method of giving relief which is to come into general use must be one which is incapable of producing full anaesthesia, especially as at the present time the greater proportion of women are attended in their confinements, not by medical practitioners, but by midwives.

To overcome the danger of giving too much gas and producing anaesthesia, Dr. Minnitt makes use of a McKesson's automatic nitrous oxide apparatus fitted with a special air inlet. The analgesia is self-administered, as all the patient has to do is to breathe in and out through a rubber face piece when in pain, thus receiving a mixture of nitrous oxide in air which causes the pain to pass away. When she no longer desires the analgesia, she merely puts down the face piece, and the flow of gas is automatically shut off.

Dr. Minnitt's gas and air analgesia was first tried at the Liverpool Maternity Hospital in October, 1933, and in November, 1933, at the Wellhouse Hospital, Barnet; and at the present time this method is now used in a large number of hospitals throughout the country and many private practitioners, too, have purchased Dr. Minnitt's apparatus, and are using it for the benefit of their own patients.

At the Wellhouse Hospital nearly 700 cases have received gas and air in the maternity unit, and I think the work at this hospital will be of particular interest to the nursing profession because the greater part of it has been done by the nursing staff without a medical officer actually being present. For the first 50 cases a medical officer was present during the whole of the administration, but as confidence increased the nurses and midwives have taken over more and more of the administration until they have felt themselves capable of taking full charge, and it is now the custom for the Sister Midwife to start the administration when she thinks it desirable, notifying the medical superintendent or his deputy that she has done so, so that a medical officer is obtainable if required, and may look in from time to time as he thinks fit.

In our series of nearly 700 cases, however, it has not been found necessary for the nursing staff to seek the assistance of a medical officer for any reason connected with the gas and air, and it has indeed been most gratifying to all those connected with the hospital to find that, in spite of many gloomy prognostications as to the inability of the nurses and midwives to administer analgesia, that they have shown themselves perfectly capable of doing so.

What the midwives at Wellhouse Hospital and at other hospitals, too, have done, other midwives are capable of doing, and it is earnestly to be hoped that the Central Midwives Board will allow district midwives to use gas and air for their own cases.

Indeed, if the medical profession were willing to co-operate with the nursing profession, there is not the slightest reason why midwives should not use this method of relieving pain, greatly to the benefit of their patients.

It has been objected that gas and air can never be used by midwives for general domiciliary midwifery because of the cost of the apparatus and of its weight, but the cost of this can be reduced, and there is no real difficulty in the way of producing special cheap apparatus for midwife's use, and as to the weight the only heavy part of the apparatus consists of the gas cylinders, and there is no reason why we should not have a number of cheap metal stands containing two gas cylinders to which the mechanical part of the apparatus can be fixed at will.

The stand and cylinders can be collected by the patients' relations just before the confinement is due, and the midwife need then only bring the mechanical part of the apparatus, which weighs only a few pounds and can be easily attached to the stand and cylinders in the patient's house.

It should be clearly understood what may be expected from Dr. Minnitt's method, as failure to realise what may be achieved may lead to disappointment.

The use of gas and air in midwifery is, of course, a compromise between the use of pure gas and the use of gas and oxygen, a compromise adopted because neither pure gas nor gas and oxygen would be suitable for general every-day use, but like most compromises gas and air does not produce complete success in every case. For example, all people are not equally susceptible to nitrous oxide, and as we must provide against any accident happening to the most susceptible patient the least susceptible patient may not obtain so much relief as we should like. I am convinced that many failures to obtain good results from this method are due to a lack of understanding as to the technique of administration, simple though this is. It is just by paying attention to the small details, such as the fit of the face-piece and the way the patient breathes, that good results can be obtained, and the degree of success obtained from gas and air in any hospital gives one a very good idea as to the ability of the staff of that hospital. We find at Wellhouse that 50 per cent. of patients obtain complete relief from all pain; 45 per cent. great relief; and 5 per cent. little or no relief; and I think this represents very fairly what one may expect from the use of gas and air.

The cost per case works out at about 2s., with our technique of administration; but this cost will, of course, depend on the length of time during which gas and air is given.

At Wellhouse it is customary to start the administration at or just before full dilatation of the os for primiparæ, and of dilatation to about the size of a 5s. piece for multiparæ, but there is no reason, apart from administrative difficulties, why gas and air should not be given as early in labour as the patient desires. Again, we do not, for administrative reasons, use any form of premedication, but in my private

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