obtained, and four hours later was conscious enough to follow moving objects with her eyes.

She began speaking on October 31; her condition continued to improve, and she was transferred to the Three Counties Hospital, Arlesey, 11 days after admission, as a voluntary patient.

COMMENT

This patient was treated with massive doses of bemegride and amiphenazole. Within four days the total dose of bemegride was 14 g. and of amiphenazole 4.2 g. No toxic effects or side-effects were noted. The previous highest dose reported was 6.95 g. of bemegride and 2.08 g. of amiphenazole (Clemmesen, 1956). It is interesting that the only psychic disturbance of those reported by Kjaer-Larsen (1956) was amnesia regarding the attempted suicide. Dr. R. J. Russell, assistant psychiatrist, reports: "This woman appeared to be a straightforward case of melancholia, and she has responded to E.C.T. in the normal manner. Bemegride and amiphenazole treatment had no deleterious effect on her mental state."

I thank Dr. Thomas Parkinson for permission to publish this case and for his helpful criticism and advice.

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REFERENCES

- Clemmesen, C. (1956). *Lancet*, 2, 966.
Kjaer-Larsen, J. (1956). *Ibid.*, 2, 967.
Shaw, F. H., Simon, S. E., Cass, N. M., Shulman, A., Anstec, J. R., and Nelson, E. R. (1954). *Nature (Lond.)*, 174, 402.
Shulman, A., Shaw, F. H., Cass, N. M., and Whyte, H. M. (1955). *Brit. med. J.*, 1, 1238.

Oxygen for Foetal Distress in Domiciliary Midwifery

The following case report may suggest the practicability of oxygen therapy for foetal distress in domiciliary midwifery.

CASE REPORT

The patient, aged 45, had had four previous pregnancies. The first (1935) ended in the stillbirth of a 10-lb. (4.5-kg.) post-mature baby. The second pregnancy (1936) was terminated by surgical induction, with normal delivery of a 7½-lb. (3.4-kg.) baby; the placenta had to be removed manually. Surgical induction for post-maturity was again performed at the third confinement (1941), and a 7½-lb. (3.4-kg.) infant was delivered. The fourth pregnancy (1950) was normal. The child weighed 7 lb. 5 oz. (3.3 kg.).

In the present pregnancy labour began at 7 a.m. on November 14, 1956, with a slight show and intermittent backache. The head was well engaged and the foetal heart was noted to be well on the right side. At 2 p.m. the patient was given castor oil, 2 oz. (57 ml.), a hot bath, and an enema. Irregular pains continued, causing little distress, and she slept for two hours during the night. At 8.15 a.m. the following day the membranes ruptured. The liquor was very thick with meconium—so much so that the attendant midwife was convinced the patient was passing faeces per vaginam. Contractions became regular every 10 minutes. When seen by one of us at 11 a.m. the maternal condition was good, the cervix three-quarters dilated, and the foetal heart 120 a minute. At noon the foetal heart became irregular at 120–130 a minute. A frequent rhythm was two beats followed by a pause. Oxygen therapy was begun, using an intermittent-flow apparatus, the patient inhaling during contractions and then for a further half a minute. Absorption of oxygen was evident from the patient's colour. After half an hour vaginal examination revealed an anterior lip of cervix only. Contractions were fair, one every five minutes, and the foetal heart was unchanged. At 1.30 p.m. the foetal heart was less easily heard and had slowed to 100–110 a minute. The irregularity persisted. Contractions were stronger. The maternal condition, probably in part owing to the inhalation of oxygen, was very good (pulse 90 a minute). The patient was then examined vaginally

by both of us. There was still an anterior lip of cervix, but it was agreed to carry out a forceps delivery.

An electric fire was extinguished and the patient anaesthetized without difficulty by ether alone in the left lateral position. Forceps were applied and slow extraction was performed during contractions. The head was delivered face to pubes (2 p.m.). On delivery the child (a male) was limp but blue, and soon took gasps. Regular respiration was established in a few minutes. A second-degree tear was sutured. Ergometrine, 0.5 mg., was given intravenously with delivery of the shoulders, and the uterus contracted well. Separation of the placenta had not occurred 20 minutes after delivery, and so, after Credé's method had been tried once without success, with the patient still on her side, the placenta was manually removed. Blood loss was minimal. The patient's condition remained excellent and the infusion of plasma substitutes, although these were available, was not indicated. While she was still anaesthetized further ergometrine, 0.5 mg., and prophylactic penicillin and streptomycin were given by intramuscular injection. The secundinae were deeply meconium-stained. The placenta was otherwise normal, but the cord was of excessive length and contained a true knot.

COMMENT

The successful outcome of this labour is of interest in view of the long period of foetal distress (4½ hours). FitzGerald and McFarlane (1955) showed that where frank meconium was passed 69% of foetuses were stillborn or in a poor or fair condition. The figure for a slow heart rate was 56% and for irregular rhythm 59%. All these signs were noted in our case, and we presume the foetus was exposed to considerable hazard. In the event the child's condition was not characteristic of white asphyxia, since, although toneless, it yet had the blue colour associated with normal recent delivery and respiration was soon established. We think it likely that oxygen therapy played some part in maintaining the condition of the foetus.

Oxygen therapy was given by a portable apparatus usually employed for dental anaesthesia and capable of delivering pure oxygen, but a Minnitt apparatus could probably be used with benefit to enrich the atmospheric oxygen.

The causes of the distress can be apportioned between prolonged labour due to occipito-posterior presentation, constriction of placental site after rupture of the membranes, especially during contractions, post-maturity, and the knot in the cord.

In further reference to the article by FitzGerald and McFarlane we would support, as an additional sign suggesting increasing distress, progressive diminution of loudness of the foetal heart when the hearing conditions, point of auscultation, and listener are unchanged. The sign may be of importance on those few occasions when it is advisable to give oxygen therapy while full dilatation of the cervix is awaited. Its recognition is an indication for immediate delivery if possible.

In parenthesis, we hold that the left lateral position, which avoids the danger of vomit inhalation, is the logical and practical position for vaginal operations in midwifery. The anaesthetist is relieved from anxiety and the major present-day risk of the operation is eliminated.

Finally, it was felt that success with this case was also partly attributable to consideration of the psychological aspect of the confinement. An attempt was made not to be too rigidly bound by medical indications for hospital confinement. We accept the modern view that acceding to a patient's wishes whenever possible exerts a favourable influence upon the course of labour. The patient's co-operation throughout a long labour was excellent. The puerperium was uneventful. For the first time the patient was able to breast-feed.

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REFERENCE

- FitzGerald, T. B., and McFarlane, C. N. (1955). *Brit. med. J.*, 2, 358.