

it comes to discussing the low oxygen content of the mixture delivered by the machine the following points must be remembered.

(1) The figure of approximately 10% oxygen was an estimate made from an experiment on the bench, where a constant flow of the mixture was drawn mechanically from the apparatus.

(2) Administration is intermittent and respiratory effort irregular when the machine is in use in the labour ward, therefore the gas-and-air mixture may be different. That this is so is suggested by the fact that patients do not become cyanosed during the administration of nitrous oxide and air by this technique.

(3) The following is an account of an estimation of the oxygen saturation of the haemoglobin in the arterial blood in two subjects inhaling from the apparatus compared with a control.

	Subject 1 Percentage O <sub>2</sub> saturation	Subject 2 Percentage O <sub>2</sub> saturation
The control . . . . .	91	98
After inhaling from the apparatus for three minutes	93	91
Voluntary hyperventilation from the apparatus . . . . .	93	86

These observations confirm the advisability of the employment of this method of gas-and-air administration in midwifery, but it should be used only in normal labour.

#### Transverse Furrowing of Nails

**Q.**—*Is there any medical significance in on-and-off transverse furrowing of the nails of practically all fingers of both hands? Excluding a local cause, does it point to any illness in the past or present (blood or nutritional disorder)?*

**A.**—This type of transverse furrowing of the nails can very often be traced to some upset of the general health. One should, of course, observe that the part of the nail thus affected is the matrix, which lies proximal to the visible nail. About six weeks has probably elapsed since the illness which produced the furrow by the time that it actually appears on the visible nail. The type of disorder most likely to produce this type of dystrophy is, I think, an acute febrile illness rather than a blood or nutritional disorder.

#### Hyaline Membrane

**Q.**—*A patient of mine has had two babies within the last 12 months, both born prematurely at about 32 to 34 weeks, and both have died within a short time. The post-mortem report has been asphyxia due to hyaline membrane. What is this condition?*

**A.**—Hyaline membrane is a condition that affects the lungs of newborn infants, especially though not exclusively the premature. Caesarean section and maternal diabetes are recognized predisposing factors, but very many cases occur in the absence of these. A layer of solid, amorphous ("hyaline") material forms on the surface of the bronchioles and infundibula, and is associated with severe resorption atelectasis of intervening alveolar tissue. This is one of the commonest pathological conditions found at necropsy in premature newborn infants.

The composition of the membrane and the cause of its formation are not certainly known. Formerly it was believed to be composed of vernix caseosa inhaled from the amniotic sac by an anoxic foetus.<sup>1</sup> This theory has now been discarded by most authorities, but opinion is still divided between the blood<sup>2</sup> and the bronchial mucosa<sup>3,4</sup> as the source of the hyaline material. Some observers have sought to incriminate oxygen,<sup>5</sup> but the evidence is inconclusive.

The condition comes on during the first few hours after birth. It is not found in stillborn foetuses. In fatal cases death ensues usually between 2 or 3 and 72 hours after birth, most often during the first or second day. The diagnosis can be made during life with a fair degree of accuracy. The infants may be in poor shape at birth or may appear well at first. After a few hours they develop respiratory difficulty with cyanotic attacks, increasing in

severity until death. There is, however, clinical and radiological evidence<sup>6</sup> that some affected infants recover, but the mortality is high.

#### REFERENCES

- Farber, S., and Sweet, L. K., *Amer. J. Dis. Child.*, 1931, 42, 1372.
- Gitlin, D., and Craig, J. M., *Pediatrics*, 1956, 17, 64.
- Tregillus, J., *J. Obstet. Gynaec. Brit. Emp.*, 1951, 58, 406.
- Lynch, M. J., and Mellor, L. D., *Lancet*, 1955, 1, 1002.
- Bruns, P. D., and Shields, L. V., *Amer. J. Obstet. Gynec.*, 1951, 61, 953.
- Donald, I., and Steiner, R. E., *Lancet*, 1953, 2, 846.

## NOTES AND COMMENTS

**Antidiabetic Drugs in Disseminated Sclerosis.**—Dr. R. S. HOLZER (Birmingham) writes: You have recently published a question and answer about the value of antidiabetic drugs in disseminated sclerosis (April 29, p. 1268). After reading G. T. Sawyer's preliminary report referred to in your answer, I conducted a double-blind trial with tolbutamide in 11 patients (six women and five men) whose ages ranged from 32 to 50 years. None of the patients treated showed an improvement in any respect, which, because of the hope inspired by Dr. Sawyer's report, was disappointing. It may be said that my patients were all advanced cases needing hospital care and with insecure domestic backgrounds. There was some doubt about their ability or willingness to co-operate and the truthfulness of the statements made by them. I presume trials are in progress in other hospitals, and the results will be interesting.

OUR EXPERT replies: In my reply to the original question I pointed out that Sawyer's report was only a preliminary communication, and that, although his results were encouraging, the number of patients treated was small and that considerable confirmation of these results would be required before it could be concluded that oral antidiabetic drugs were of value in the treatment of multiple sclerosis. The results mentioned by Dr. Holzer and those of a larger and more comprehensive double-blind trial reported by Dr. Henry Miller and his colleagues from Newcastle<sup>1</sup> clearly have not confirmed the original findings, and it now seems certain that the sulphonylureas will share the fate of so many other drugs which, after an initial encouraging report, have been found to be ineffective in the treatment of multiple sclerosis.

#### REFERENCE

- Foster, J. B., Miller, H., Newell, D. J., and Kinley, L. J., *Lancet*, 1961, 1, 915.

**Vaginitis in a Child.**—Dr. B. K. H. NAIR (Brighton) writes: With regard to the treatment of vaginitis in childhood ("Any Questions?" May 13, p. 1405) I would like to point out that your expert has overlooked the fact that threadworms are often a predisposing, if not an exciting, cause of vaginitis in children. Threadworms setting up an irritation about the anus and causing scratching of the anus and vulva are often responsible for the spread of infection, and their presence tends to perpetuate the vaginitis. Eradication of threadworm infestation will help to clear up a vaginitis, especially those which relapse after treatment by the local and general measures mentioned in the answer.

**Corrections.**—Mr. A. P. Costain, Member of Parliament for Folkestone and Hythe, proposed the toast to the Harveian Society at the Buckston Browne/Gray Hill dinner held in the House of Commons on May 24, and not Sir Richard Costain as stated in the *Journal*, June 3, p. 1618.

We regret a misprint in Dr. J. Birch's letter on "Distasteful Advertising" (June 3, p. 1611). "The very frequent letter" should have read "The very infrequent letter."

Snake-bite antiserum: the telephone number of the Northampton General Hospital is now Northampton 34700.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitology, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors overseas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

ADVERTISEMENTS should be addressed to the Advertisement Director, B.M.A. House, Tavistock Square, London W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 4499. TELEGRAMS: *Britmedads, Westcent, London*.

MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association. TELEPHONE: EUSTON 4499. TELEGRAMS: *Medisecra, Westcent, London*. B.M.A. SCOTTISH OFFICE: 7 Drumsheugh Gardens, Edinburgh.