

morning dose, the insulin was given to the fasting rabbit. The rabbits treated with cortisone acetate were given 5 mg. intramuscularly at 8 A.M., and 10 mg. at 4 P.M. Hypoglycaemic attacks were seen in no case during the experiments.

The morning blood-sugar of the control animals (also during carbutamide therapy) was around 108 mg. per 100 ml., and in the animals treated with cortisone acetate 142 mg. per 100 ml., whether or not carbutamide was administered. When carbutamide was given there were moderate rises as well as falls in the blood-sugar in the early hours. In the cortisone-treated rabbits, the average fall in blood-sugar after insulin was 91 mg. per 100 ml. and the following rise 63 mg. When carbutamide was given the average fall was 69 mg. and the rise 68 mg. The corresponding figures in the controls were 85 mg. and 58 mg. without carbutamide, and 60 mg. and 49 mg. with carbutamide.

This means that, in spite of carbutamide treatment, there was a significant outflow of glucose from the liver.

First Department of Paediatrics,
Budapest University Medical School.

L. BARTA
G. SIMON.

NEW METHOD OF PROMOTING LABOUR

SIR,—We have developed a new and natural method of promoting labour based on Verney's experiments with antidiuretic hormone in dogs.^{1 2} For this purpose we use an intravenous infusion of hypertonic saline solution on the assumption that this may stimulate the posterior lobe of the pituitary gland. Our first results have been good.

CASE 1.—A primigravida, aged 23 (last menstruation Aug. 8, 1956), was admitted on May 6, 1957, at 6 A.M. The membranes had ruptured spontaneously half an hour earlier. She had had an uneventful pregnancy. A vaginal examination then revealed only 3 cm. (2 fingers) dilatation. She was put to bed without therapy. At 1.15 P.M. another vaginal examination was made and revealed exactly the same situation as at 6 A.M.; she felt no labour pains, and we could feel no uterine contractions. At 1.35 intravenous infusion of 1000 ml. of a 2.5% saline solution was begun and completed at 3.35. At 3 P.M. we felt the first weak uterine contraction. The labour pains became progressively more frequent and stronger, and at 7.55 a baby weighing 3080 g. (6.8 lb.) was born spontaneously.

CASE 2.—A primigravida, aged 33 (last menstruation July 26, 1956), was admitted on May 1, 1957, at 6.45 A.M. Labour pains had begun at midnight, after an uneventful pregnancy. At 10.30 A.M. a vaginal examination revealed 3 cm. (2 fingers) dilatation. There were only weak contractions of a short duration. At 4.45 P.M. a second vaginal examination revealed 4 cm. dilatation, and at 7.45 P.M. a third vaginal examination showed the same situation; practically no contractions could be felt. An intravenous infusion of 1000 ml. of a 2.5% saline solution was administered from 8.45 to 9.20 P.M. At 9 P.M. the contractions began again, and became stronger and more frequent. At 11.30, at full dilatation, the membranes were ruptured artificially, and at 12.25 A.M. a baby weighing 3060 g. (6.7 lb.) was born spontaneously.

CASE 3.—A primigravida, aged 29 (last menstruation July 3, 1956), was admitted on April 4, 1957. Pregnancy had been uneventful despite the fact that she had had serious diabetes mellitus since the age of 4 (88 units of insulin a day). On April 7 we concluded that the child was dead, for the foetal heart sounds suddenly ceased. On April 11, and again on April 15, we tried unsuccessfully to induce labour by means of castor oil, quinine, and oxytocin. On April 17 she was discharged. At home she took stilboestrol 20 mg. hourly for 10 hours. Since this also failed to bring about labour, she was again admitted on April 23. From 3.30 to 4.20 P.M. we gave an intravenous infusion of 1000 ml. of a 2.5% saline solution. At 4.30 P.M. we noticed the first contraction of the uterus, and these became progressively more frequent and stronger. At 1.00 A.M., at full dilatation, the membranes were ruptured artificially. At 1.32 a macerated female foetus weighing 3620 g. (8 lb.) was born spontaneously.

All three mothers had a slight sensation of thirst after the infusion. During and after the infusion the blood-

pressure and urine were regularly observed. We could find no proteinuria and only a slight rise in blood-pressure.

The injected hypertonic saline solution probably stimulated the neurohypophysis, so that the posterior lobe of the pituitary gland produced not only more antidiuretic hormone but also more oxytocic substance. This may afford a powerful and natural means of stimulating labour. We are now trying to work out a dosage scheme more thoroughly. The method is, of course, contra-indicated in hypertensive toxæmia and cardiac disease.

Department of Obstetrics and
Gynaecology, State University,
Utrecht, Holland.

T. L. A. DE BRUÏNE.

HIRSCHSPRUNG'S DISEASE

SIR,—I was very interested to read the remarks of Mr. Daintree Johnson and his colleagues (June 1) upon continence after abdomino-anal anastomosis. It has always appeared to me that normal bowel control is an involuntary process and does not depend upon voluntary contraction of the sphincters or of the levator ani muscle. Indeed, if what we are taught by physiologists is true, it is not possible to contract striated muscle for long periods.

Normal continence depends upon a normal sensory mechanism in the lower rectum and the involuntary internal sphincter. The latter thickened portion of the internal circular muscle of the bowel is the normal mechanism of continence. The voluntary external sphincter is only brought into play to prevent the short-lived sensation of the call to stool. It can contract voluntarily for about a minute allowing "plastic adaptation" to occur in the rectum and the internal sphincter time to regain control.

It is for this reason that abdomino-anal operations may give disappointing results. The reason why they may be successful is more difficult to understand.

London, W.1.

IAN P. TODD.

CARDIOGRAPHIC TECHNICIANS

SIR,—Your annotation of May 18 draws attention to the plight of radiographers. Cardiographic technicians are much fewer, but their financial position also needs emphasis.

In 1952 Mrs. X was a trained medical secretary when appointed technician in charge of a very busy department. In 1954 she was put on grade II of the cardiographic technicians' scale, £360 rising to £485 plus London weighting. By 1956 a small award had increased the scale to £390 rising to £520 p.a., plus London weighting. My medical secretary at the hospital, twelve years her junior, was then earning £12 a year more (and medical secretaries are by no means overpaid in the health service). In view of the obvious disparity between her salary and her value to the hospital, it was twice recommended to the Ministry of Health that Mrs. X should be given accelerated increments to her salary. These recommendations were both rejected. She would have preferred to continue in the hospital where she had worked for seventeen years, but she has recently accepted an appointment as medical secretary and cardiographer to an industrial firm, where her salary is £500 plus emoluments amounting to £39 per annum, and her promotion prospects are much better.

Under the N.H.S., a trained cardiographer (who needs to understand her patients as well as her machines) earns no more than many shorthand typists of 19 in industry.

While pressing our demands for increased remunerations for ourselves, it would be sad if, as a profession, we failed to press effectively for the improved pay of our technical assistants.

Central Middlesex Hospital,
London, N.W.10.

KEITH BALL.

1. Verney, E. B. *Lancet*, 1946, ii, 739.
2. Verney, E. B. *Ibid.*, 1948, ii, 108.