Dosage and Administration.

Pernocton is administered intravenously in 10 per cent. solution. It is put up in ampoules containing 2.2 c.cm. ($3\frac{1}{2}$ grains) of the solution, and is ready for injection without any dilution, mixing, dissolving, or other manipulation. As the average hypnotic dose is only $4\frac{1}{2}$ grains it can be seen that the volume of the usual injection will be about 3 c.cm. It is given at the rate of 1 c.cm. per minute, and this smaller volume results in a saving of time, and cuts short a rather tedious procedure.

The pH of the solution is 9.8, as is that of sodium amytal; the injection must be given slowly to prevent concentration, and to allow dilution and absorption in the blood stream. The dosage as recommended by Bumm averages 1 c.cm. for every 30 lb. of weight, with a total average of 4 to 5 c.cm.; this dosage presumes that no other anaesthetic is being administered. Since the majority of our patients received morphine in some form also, we were able to obtain the same satisfactory results with smaller doses of pernocton.

As in the case of sodium amytal, many fractures could be painlessly reduced with the help of pernocton, and other minor procedures be carried out without the aid of any other anaesthetic. The use of pernocton in obstetrics will be reported upon subsequently, since we have not yet sufficient cases to draw definite conclusions in this respect.

Summary and Conclusions.

Pernocton (sodium secondary-butyl beta-bromallyl-barbituric acid) is a synthetic barbiturate resembling sodium amytal in its composition and action. It has all the advantages of sodium amytal as a hypnotic, and in addition there is: (1) almost complete absence of restlessness and excitement during the recovery period; (2) no fall in the blood pressure; (3) a more powerful hypnotic effect; (4) a solution prepared ready for injection; (5) a smaller volume to be injected; (6) a shorter period of unconsciousness; and (7) better and earlier co-operation during the recovery phase.

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INTRAPERITONEAL GESTATION WITH RECTAL HAEMORRHAGE.

BY

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ALTHOUGH extrauterine gestation is, unfortunately, a not exceedingly uncommon accident, cases are rare of such a conception persisting more than a few weeks. Death of the ovum with its expulsion as a tubal mole, or rupture with its attendant train of acute phenomena, usually terminates the pregnancy; or possibly pain, and maybe unexpected irregular vaginal loss, arouse the patient's suspicions that all is not proceeding as it should. For women are learning to-day that the normal pregnancy should follow certain definite lines, and that any gross departure therefrom should call for a medical examination.

An ectopic gestation persisting for any length of time is bound to cause considerable disturbance in that portion of the abdomen or pelvis within which it is situated. How disastrous these disturbances may be is illustrated by the following case.

A multipara, aged 27, who had had three previous normal pregnancies, was admitted to Hackney Hospital on January 26th, 1928, stating that she was six months pregnant, was suffering from severe pain in the lower abdomen, and had that day commenced bleeding per vaginam. Her last regular monthly period had been six months previously, and, though she was certain that she was pregnant, her pregnancy had by no means

followed a normal course. On careful questioning it transpired that her amenorrhoea had not been complete. She had had several small attacks of bleeding, and a more or less continuous yellowish vaginal discharge. All the time she had suffered from malaise, and from an almost constant lower abdominal pain and backache. This pain had had several exacerbations, which necessitated her lying up from time to time, but until three days before admission she had not had any really acute attack of pain. Her acute history dated from January 23rd, when she was seized with a violent pain in the left iliac fossa, and felt very ill; she was admitted to hospital three days later with a temperature of 101.2° F., a pulse rate of 140, and passing clots per vaginam.

On examination she looked ill, and was very pale. The breasts were active. All the lower part of the abdomen was held rigidly, and was very tender on palpation, especially in the left iliac fossa. Rising from the pelvis was a tumour, reaching almost to the umbilicus, and extending over towards the left side of the abdomen. It was non-fluctuant and dull to percussion. A souffle was audible about one and a half inches below the umbilicus, but not over the position of the uterine arteries. On admission the uterus was not felt apart from the tumour, but when the muscles were relaxed under anaesthesia this physical sign, as will be seen later, proved to have been erroneous. The tumour was not felt to contract under the examining hand. Foetal heart sounds were not heard, nor were movements detected. On vaginal examination clots of blood and a vaginal discharge were found to be present; there was tenderness in the anterior fornix, and the os uteri admitted a finger-tip. Bimanually, movements were not transmitted from the swelling to the cervix.

The following day an anaesthetic was administered, primarily with a view to a more thorough examination. As the patient was being placed in the lithotomy position before the vaginal examination she passed 20 oz. or more of bright blood per rectum. A rectal examination revealed nothing to account for this. With the abdominal muscles well relaxed the uterus was now felt as a separate entity, lying well to the right side, and enlarged to about twice its normal size. A uterine sound confirmed this. In view of the copious rectal haemorrhage an immediate laparotomy was performed.

Adherent to the abdominal wall below the level of the umbilicus, and above the left broad ligament, was a sac, which when opened proved to contain a very offensive fluid mass of faeces, blood, and liquor amni, together with a partially macerated foetus, the whole showing evident signs of infection. The foetus measured 17 cm. from vertex to buttocks and was well formed. The placenta was seen in the left lower aspect of the sac. Severe haemorrhage from large vessels which lay around the placental site and in the wall of the sac negated any intervention beyond rapid removal of the foetus, marsupialization of the sac, and firm packing. A blood transfusion of 400 c.cm. was given that evening. There was little further bleeding from the very offensive wound in the abdomen, but there was extensive bleeding per rectum, and the patient died on the following evening.

A post-mortem examination was performed. Most of the lower abdomen was found to be occupied with a sac, situated in the abdominal cavity above the left broad ligament, formed by omentum, transverse and descending colon, caecum, and the anterior abdominal wall. The placenta was adherent to the abdominal wall in the region of the left iliac fossa and to the descending colon. It measured about three inches in diameter. The left tube and ovary could not be identified. A perforation which admitted a finger connected the sac with the descending colon, and the whole colon and caecum were distended with blood. No other perforation existed. In spite of the fact that at the operation the general abdominal cavity was opened, there was no evidence of peritonitis in the upper abdomen.

Certain features in this case appear to call for special comment. Communication of the sac of an ectopic gestation with the bowel, particularly the rectum, has been recorded previously. The remarkable fact seems to be, not that such perforation did occur, but that, the sac being situated in the position in which it was, this rupture did not occur earlier. Cairns Forsyth¹ and Schwartz² record cases of perforation of an ectopic gestation into the rectum, and in both cases the age of the foetus was about six weeks. It is also interesting to note that in both these cases the symptom which most imperatively called for surgical intervention was rectal haemorrhage. Schwartz in the description of his case, in fact, remarks: "Dans tous les cas, c'est l'existence d'une abondante et subite haemorrhage rectale qui a commandé l'intervention."

Needless to say, except for the close proximity of the rectum and descending colon on the one side, and the caecum on the other, there is no reason why the bowel should be involved more than any other viscus. The

bladder has been eroded in more than one case, and Gayet³ describes a case in which, after two years, a four months foetus was voided piecemeal per urethram, having during that time remained incarcerated in a sac adherent to the bladder, eventually forming a false diverticulum.

That there was no definite attack of acute pain during the patient's pregnancy to suggest that at that particular time tubal extrusion had occurred is another curious point. The oöperm must have been expelled at a very early date without any very acute symptoms to point to the event, for her pregnancy presented a fairly continuous and uniform story of general malaise and pain persisting until the final very severe attack which resulted in her admission to hospital.

Whether a primary abdominal pregnancy ever occurs is very doubtful. It is safer and less controversial to assume that a tubal gestation was extruded into the abdomen, the actual moment of extrusion having been missed in the general abdominal pain and discomfort attending the abnormal pregnancy.

Again, with the sac containing the foetus situated as it was so close to the bacteria-laden descending colon, it seems rather surprising that infection should have supervened at such a relatively late period. For, by comparison of the period of comparative amenorrhoea by which the patient dated her pregnancy with the development of the foetus, the latter must have been lying dead in the

sac for a full month. That infection does occur and produce serious developments in these cases is shown by a case recorded by Skinner⁴ in which the placenta was attached to the liver, and infection of the sac, presumably from the adjacent bowel, ensued with a foetus of the twenty-fifth week. It is a great testimony to the resistance of the peritoneum that this infected cesspool, for it was little else, could have remained so localized in the lower abdomen with no inflammation in the remainder of the abdominal cavity.

There remains the fact of the massive dilatation of the whole of the large bowel with blood, as discovered at the post-mortem examination, although there was no perforation or haemorrhage discovered into the colon at any point proximal to that described. One can only suppose that in the generally collapsed state of the patient shortly before death, continued haemorrhage passively distended the colon, which simply acted as a reservoir, being unable actively to expel its contents owing to the atony preceding dissolution.

In conclusion, I should like to express my thanks to Dr. W. Brander, late medical superintendent of Hackney Hospital, for permission to publish this case.

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A FAMILY TENDENCY TO TALLNESS OF STATURE, OBESITY, AND DIABETES.

BY

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THE family described consisted of a father, mother, daughter, and two sons, the father being a well-proportioned man over six feet in height. The mother, aged 44, had had glycosuria since she was 21 years of age. It was mild in character, associated with obesity, and was readily controlled by dieting. A sugar tolerance test gave a diabetic curve. The children showed a disorder of growth and nutrition. On inquiry, many of the relatives of both parents were found to be similarly affected. The following diagram indicates the occurrence of obesity (O), diabetes (D), and tall stature (T), among the members of both families, paternal and maternal.

An opportunity occurred of examining the three children of the present generation, and a short account of each is given.

The Daughter.

History.—Aged 21. Rapid growth in early teens. Easily tired and subject to headaches. Shy and nervous disposition. Menstruation began late, at the age of 17-18; the discharge has always been scanty in amount, scarcely lasting more than an hour, and accompanied by severe pain.

Examination.—Height 5 ft. 10 in.; weight 11 st. 2 lb. (in clothes; average weight would be about 10 st. 8 lb.). Fat not excessive, and evenly distributed. Tall stature, with broad chest and pelvis. Hands and feet in proportion. Hair distribution normal, but under-developed for her age. Blood pressure 125/70 mm. Hg; pulse 88; temperature 98° F. Visual fields, optic discs, and pituitary fossa normal. Urine sugar-free. A sugar tolerance test (60 grams of cane sugar on a fasting stomach) gave a normal

result: Fasting, 0.09; 30 minutes, 0.15; 1 hour, 0.09; 1 hour 30 minutes, 0.09; 2 hours 0.06; 2 hours 30 minutes, 0.05; 3 hours, 0.07.

The Elder Son.

History.—Aged 18. Tendency to put on flesh was first noticed at the age of 10. In the last year, in spite of dieting, he has gained 2½ stone. He is inclined to fall asleep during the day, and has difficulty in wakening in the morning. Temperament irritable.

Examination.—Height 5 ft. 10 in.; weight 17 st. (in clothes; average weight would be 10 st. 8 lb.). His appearance resembles that of a man of 30 years of age. He has copious hair, with male type of distribution. Average genital development; mature sexual desire. Gross obesity, the fat being distributed mainly round the hips and shoulders and on the breasts. Blood pressure 138/70 mm. Hg; pulse 64; temperature 97° F. Visual fields and discs normal. An x-ray examination of the skull revealed a normal pituitary fossa and normal epiphyseal closing in the long bones. Urine sugar-free. Sugar tolerance slightly increased: Fasting, 0.09; 30 minutes, 0.14; 1 hour, 0.08; 1 hour 30 minutes, 0.09; 2 hours, 0.09; 2 hours 30 minutes, 0.09; 3 hours, 0.08.

The Younger Son.

History.—Aged 15. Is said to have weighed 14 lb. at birth. Noticeable gain in weight at 6 years of age. Frequent headaches, but no somnolence. He is of a placid, gentle disposition.

Examination.—Height 5 ft. 11½ in.; weight 16 st. 2½ lb. (in clothes; average weight would be about 11 stone). The skin on the trunk and limbs is hairless and smooth. On the pubes the hair distribution is feminine in type. The genitals are below the average for his age. Gross obesity, with a distribution similar to the elder brother. Blood pressure 130/70 mm. Hg; pulse 88; temperature 98° F. Visual fields, discs, and x-ray film of skull normal. Normal epiphyseal closing. Urine sugar-free. Slight increase of sugar tolerance: Fasting 0.09; 30 minutes, 0.13; 1 hour, 0.10; 1 hour 30 minutes 0.11; 2 hours, 0.09; 2 hours 30 minutes, 0.09; 3 hours, 0.07.

REMARKS.

The association of obesity, genital hypoplasia, and lack of growth with a pituitary tumour was first noted by Fröhlich¹; later, the relation of these symptoms to the anterior lobe of the gland was confirmed by the experiments of Paulesco,² Cushing,³ and others. It was also recognized that such symptoms could be produced by a simple disturbance of function alone without a tumour being present. Dott⁴ found that the removal of at least two-thirds of the anterior lobe was necessary to produce effects in animals. No results followed excision of the posterior lobe, though subsequent increase of carbohydrate tolerance was observed by Cushing. In a recent clinical review Engelbach⁵ states that increased functional activity of the anterior lobe, before puberty, leads to tall stature and gigantism, and to acromegaly in adult life. The