A WARNING REGARDING BASAL NARCOTICS

BY

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The widespread use of narcotics in pre-operative medication has certainly relieved the dread and anxiety associated with surgical procedures, especially in sensitive or imaginative patients, but it should be emphasized that these drugs are not entirely free from danger. I append notes of two cases which have occurred in my practice during the past six months, in both of which narcotics were indubitably a contributory cause of death. It must be admitted that other sedatives were administered, and it would appear to be extremely unwise to administer morphine or omnopon in conjunction with basal narcotics.

Patients exhibit an idiosyncrasy to most drugs, and perhaps especially to narcotics. Although pre-operative medication gives excellent results in the majority of cases, yet occasionally an alarming period of unconsciousness results, or even a fatality. It is possible that for various reasons little is heard about these unpleasant results, and therefore basal narcotics are apt to be administered indiscriminately. It is now my practice to administer avertin only in amounts corresponding to two-thirds of the official dose, and supplement its effect with gas and oxygen as necessary. I believe this dose to be comparatively safe, and I find that it is sufficient to render the patient amnesic.

CASE I

The patient, a woman aged 29, had suffered from the typical manifestations of exophthalmic goitre for about a year, and had previously had a course of medical treatment for five months, but after temporary improvement the condition relapsed. On admission to hospital her pulse rate was 132, but this quieted to 96 after treatment in bed and Lugol's iodine. The thyroid gland was moderately enlarged, exophthalmos was present, and there was a systolic murmur. On the morning of the operation 1/4 grain morphine and 1/100 grain hyoscine was given hypodermically, followed by 4.4 c.cm. of avertin per rectum, which is the recognized dose for a patient weighing 7 st. Half an hour after the administration of the avertin the neck was infiltrated with 1 per cent. novocain and a partial thyroidectomy performed. The bulk of both lobes and the isthmus were removed; the operation presented no difficulty, and was completed in about forty-five minutes. Towards the end of the operation signs of respiratory failure became evident, as evinced by cyanosis and slow, shallow respirations. Oxygen inhalation caused a temporary improvement. The operation was rapidly completed, and a pint of glucose and saline, with 30 minims of Lugol's iodine, was administered per rectum. Two hours after operation the temperature was 103°, the pulse 146, and respirations 12 per minute. There was no external bleeding and no signs of extravasation in the neck. Oxygen inhalation was continued, cardiac stimulants were administered, but the pulse rate gradually increased until it became imperceptible. The patient died five hours after the operation was completed without regaining consciousness.

Death in this case appears to have been due to respiratory failure following the administration of avertin, as the pre-operative condition of the patient was highly satisfactory and the operation presented no difficulty.

CASE II

The patient, a woman aged 38, was operated on in June, 1931, for cyst of breast and a femoral hernia. The usual dose of avertin was given, with excellent results. In June, 1932, when in India, she developed an appendix abscess; this was drained on three occasions, and a vesico-vaginal fistula resulted. There was prolonged suppuration, and she returned to England; in June, 1933, the portion of the appendix which was still attached to the caecum was removed. She was given intravenous nembutal with gas, oxygen, and ether, and recovered consciousness in a normal manner two hours after the operation. As the fistula still persisted, with recrudescence of pelvic infection, it was decided that a laparotomy

should be performed and the fistula closed from above. The operation was arranged for 8.15 a.m. on November 20th, and was performed by one of the leading gynaecologists in London. The patient requested that she should again be given nembutal, and on the previous evening 1½ grains (one capsule) of the drug were given orally. At 7.45 a.m. the following day the patient was wide awake. She was given 3 grains of nembutal by the mouth, and 1/6 grain morphine and 1/100 grain of atropine hypodermically.

The operation, as was expected, proved to be difficult and tedious. The pelvic organs were buried in a mass of adhesions, but the fistula was competently closed, and an infective blood cyst of the right ovary, to which was attached the remains of the tip of the appendix, was removed. The operation lasted just over two hours, during which time open ether was administered. At the end of the operation the pulse rate was 130, but the general condition was satisfactory. At 12.45 p.m. the patient, though still comatose, became somewhat restless, and was given 1/3 grain omnopon hypodermically. At 3 p.m. the pulse became thready, and a blood transfusion of 400 c.cm. was given, followed by one pint of saline and glucose. The condition improved temporarily, but at 6.30 p.m. the pulse rate rose to 156, and more saline and glucose was administered. Throughout the night the respirations gradually became more rapid, and the pulse rate varied between 140 and 160. Further infusions of saline and glucose were given, but at 9 a.m. the following day deep unconsciousness still persisted, although corneal reflexes were brisk. As the continued unconsciousness gave rise to alarm the advice of Sir William Willcox was sought, and he saw the case in consultation at 9.45 a.m. The condition was then as follows: pulse 148, respirations 48, temperature 101°, no reflexes present except the corneal, pupils small but not "pin-point," reaction to light just perceptible, crepitations and impaired resonance present at the base of both lungs. On the advice of Sir William Willcox lumbar puncture was performed and saline and glucose infusions continued. At 4.30 p.m. a further consultation was held, and the patient then exhibited a slight right plantar reflex; the corneal reflexes were brisk, and the pupils were slightly larger and sluggishly reacted to light. This improvement was attributed to the lumbar puncture. A further 12 c.cm. of cerebro-spinal fluid was withdrawn, which, on analysis by Dr. Roche Lynch, was found to contain 1/3 grain nembutal. Cardiac stimulants and further infusions were given, but at about 11 o'clock on the following morning the pupils became widely dilated and did not react to light, the pulse was imperceptible, and the patient died at noon.

As consciousness was not regained after administration of the anaesthetic the case was reported to the coroner and an inquest held. It was agreed that the cause of death was shock, some renal impairment due to ascending infection from the infected bladder, and the effects of nembutal. An estimation of the blood urea had been made at 6 p.m. on November 21st; this showed a concentration of 0.57 mg. per 100 c.cm., so that renal deficiency was not serious. It is interesting to note that on a previous occasion nembutal had been given with no untoward symptoms. In this final operation the prolonged toxæmia from the pelvic suppuration, which began in June, 1932, had undoubtedly rendered the patient unduly susceptible to nembutal, so that a dose which would otherwise have been quite safe had a greatly enhanced effect, and produced a typical barbituric acid toxæmia with characteristic pulmonary congestion and bronchopneumonia.

The notes concerning this case are written with the agreement of Sir William Willcox, who on three occasions visited the patient in consultation.

The treatment of a case of narcotic poisoning consists in the administration of cardiac stimulants, intravenous infusions of saline and glucose (5 per cent.), and oxygen inhalations. Repeated lumbar punctures are valuable, as by this means cerebro-spinal fluid is withdrawn which contains a considerable amount of the narcotic, and which is replaced by fresh fluid of lower narcotic content. Frequent injections of strychnine have given good results in some cases (*British Medical Journal*, December 16th, 1933). In a case of veronal poisoning not less than 6 grains of strychnine were administered in sixty hours, and recovery ensued.