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THE DANGERS OF SCOPOLAMINE- MORPHINE ANÆSTHESIA

A word of warning at the present time as to the possible dangers of scopolamine-morphine anesthesia cannot be amiss. It is well for the conservative surgeon to consider carefully the reports of deaths which are said by the authors to have been due to the administration of this anesthetic, before he resorts to its use. We do not for a moment wish to discourage experimental investigation. However, it is a question whether one is justified at the present time in making use of the anesthesia when so many surgeons of well-known ability and judgment have ceased to use it, or use it only with great care and judgment. In relation to the fatal cases it should be remembered that when they have been reported by reliable observers as being possibly due to the scopolamine-morphine, the burden of proof rests with the advocates of the procedure, rather than with its opponents; and when numerous observations have accumulated of fatal cases in which the death ensued in a similar manner after its use, it is only fair to our patients that we should wait for the advocates

of the method to prove that death was not due to scopolamine-morphine, rather than proceed with this method of anesthesia and run the risk of fatal termination.

In this relation, De Maurans, the editor of *La Semaine Médicale*, who has been radically opposed to this procedure, published early in the year an article in which he collected twelve fatal cases, due possibly to the method of Schneiderlin. Lately he has, in the same journal, reported further fatal cases, and has taken the trouble to inquire of various surgeons as to their opinions upon this subject. Flatau wrote that he had not made use of this method of anesthesia since the fatal case which he had already reported. Dirk remarked that it should be administered with prudence, and especially in aged and feeble patients great care was to be taken, and the second dose to be omitted where, in about an hour, profound somnolence came on with pupillary dilatation and cyanosis. Israel responds to De Maurans' letter, saying he did not know whether or not his deaths had been due to the narcosis, and that he allowed each one to form his own opinion after studying the cases. He mentioned that in two of them, which succumbed in about two hours with extensive degeneration of the parenchymatous organs, Professor Orth expressed the opinion that if the condition found was not due to a phosphorus poisoning, one could not distinguish it from that produced by such a poison. The cases had been given 18 to 25 c.c. of chloroform, in addition to the scopolamine. Israel brings up the question whether or not scopolamine-morphine with small doses of chloroform or ether may not produce extensive lesions, which either of the latter alone is incapable of in the same sized doses.

Ziffer reports three observations in which there was a reasonable doubt as to whether or not the death might have been due to the anesthetic; however, taken in combination with other reported cases similar in their manner of death, they are extremely suggestive. Zahradnicky reported 1 death in 232 cases, and in answer to the letter sent him, wrote that he had ceased to use that method of anesthesia after that death, especially since he had been able to collect reports of 6 deaths in 650 cases, constituting an enormous mortality. Lovrich, assistant in the First Gynecological and Obstetrical Clinic of Budapest, under Professor Barsony, reported 50 cases, with 2 deaths; and in this relation Barsony wrote to De Maurans that scopolamine is a cardiac poison which cannot be regulated, and that its influence upon the heart is not due alone to the size of the doses, but also varies in the individual to whom it is administered, and as a consequence of these 2 cases he has definitely excluded narcosis by scopolamine from his clinic. In the Second Clinic at Budapest, in consequence of one death in a hundred, they have ceased to use Schneiderlin's method.

Altogether, De Maurans collects, in this new series, 10 fatal cases which he believes to have been due to the scopolamine-morphine — 6 women and 4 men. It is interesting to note that of 8 of these cases, in 4 the anesthesia was reinforced by ether and in 4 by chloroform. This, statistically at least, seems to prove that the original assumption that chloroform was less dangerous than ether in these cases is without justification. After considering the reports, De Maurans states, "It is not the age of the patient, nor the doses of anesthetic employed, nor the manner of operation, nor the choice of anesthesia to reinforce it, that is responsible for these deaths, but they ought to be attributed to the scopolamine itself."

De Stella, by experimental researches, has shown that scopolamine acts principally upon

the center of respiration, and secondly upon the heart. A review of these reported cases shows that practically all of them died as a result of an arrest of respiration accompanied by cyanosis. Moreover, it did not occur by simple depression of the respiratory function, but was often accompanied by Cheyne-Stokes respiration, suggesting a paralysis of the centers in the medulla. In view of these facts, it would seem advisable for the conservative surgeon to await further animal experiments before resorting to this procedure, rather than jeopardize the lives of patients intrusted to his care.