"TWILIGHT SLEEP"

AND THE GENERAL PRACTITIONER.

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THE administration of scopolamine-morphine as a routine during labour has now had an extended trial in this country, and it may not be inopportune to give details of my own experience of the treatment of a considerable number of cases by this method. The most erroneous ideas prevail even among medical practitioners as to its use and effects, and if this article serves no other purpose than to clear some of these misconceptions that undoubtedly exist, it will have been well justified. Many of my patients have had to run the gauntlet of repeated warnings and reprobations of well-meaning though misinformed friends, and women have told me that they dared not even tell their doctor of their intention to have twilight sleep, as he was an ardent opponent.

Current Misconceptions.

In a recent lecture delivered to the Edinburgh Branch of the Scottish Midwives' Association, Dr. Hugh S. Davidson said:—

"Some doctors are wholly in favour of the use of twilight sleep in every case, and others are equally emphatic in condemning its use in any case. Some of the laity, especially those who have experienced it personally, swear by it, whilst others, credulously swallowing every tale they have heard, inveigh against it owing to its alleged effects on mother and child, repeating, with additions, the story they have heard that it has filled the asylums with idiots. I have been told such things by patients to whom I have advised its use, and I may say at once that I have never come across such cases, nor have I been able to discover any in the experience of my medical friends. My personal opinion is completely in favour of its use, as you can judge by the fact that I have used it among my nearest relatives."

I was amused by a question put to me by a local practitioner who had come to the home to see a patient privately. "Twilight sleep," he said, "may be all right for the mother, but what about the dead babies?" He was almost incredulous when I assured him that we had not lost a single baby in several hundred cases. Another practitioner of 25 years' standing told me that he had timorously employed scopolamine in a single case with what he described as alarming results for, after an initial injection of morphia gr. $\frac{1}{4}$ and hyoscine gr. $\frac{1}{150}$, pains entirely ceased for a number of hours, much to his distress. He had never again had the temerity to try the method. He was much puzzled to know what procedure I should adopt in a case that might require internal manipulation, and was surprised to learn that chloroform is not contra-indicated in "twilight sleep." Misconceptions such as these are very common, and I could indicate many more; but sufficient, I think, has been said to show that the whole subject is much clouded and obscured by a fog of misunderstanding and prejudice.

Personal Results.

I now propose to give an unbiased statement of its use from my personal results. At the outset a little discrimination is needed as to when treatment should commence. If it be delayed too long the patient suffers needlessly; if it be administered too early it is more than likely the pains will cease for some time, as was the experience of my colleague detailed above. I make it a rule never to give the first injection until pains are coming regularly every ten minutes, or if these are not fraught with much discomfort, to wait until they occur at five-minute intervals in primiparæ. In multiparæ treatment should, as a rule, begin as soon as definite labour pains are first felt.

The patient has a preliminary enema and empties her bladder. The room is darkened and her ears stuffed with

cotton-wool soaked in olive oil, so that her attention shall not be distracted by anything. The attendants wear soft slippers. The initial injection should consist of scopolamine gr. $\frac{1}{150}$ and morphia gr. $\frac{1}{6}$, given subcutaneously in the gluteal region. I know it is often usual to give morphia gr. $\frac{1}{4}$, but increased experience has led me to adopt the smaller dose, and I never repeat the morphia. In half an hour a further injection of scopolamine gr. $\frac{1}{450}$ is given and usually repeated in half an hour. In big fat subjects the second injection often needs to be scopolamine gr. $\frac{1}{200}$. Thirst is generally complained of early, and water should be given to relieve it, but when once amnesia is established water should not be mentioned. Subsequent injections, varying from scopolamine gr. $\frac{1}{150}$ to gr. $\frac{1}{450}$, are regulated by the memory test, which requires a little experience for its successful application. The patient is shown some familiar article—a watch, a comb, or a hair-brush—and asked what it is. If she is asleep wait until she is aroused by a pain. She will probably recognise the article. Half an hour later the question is put, "What did I show you a little while ago?" If she recalls it at once without any mental effort another injection is given at once; if she is hazy and has difficulty in recalling it to mind, another half an hour is allowed to elapse, when some other article is shown her. I usually exhibit my silver cigarette-case for the third test, and it is often described as something quite different—i.e., a piece of paper or an envelope—and it was once called a scalp. It is necessary to be sure that she thoroughly visualises it, as there is always some dilatation of the pupil due to the scopolamine. The article selected should be held a little distance away and in a good light, which is screened afterwards. Judged from her replies one gauges her mental condition as acute, clear, slightly clouded, or very clouded. Frequently, after a few injections, there will be no need for further testing, as the patient herself gives gratuitous evidence of satisfactory amnesia. When awakened by a pain she might give vent to some such expression as "Go down and get the bread and butter." "Leave me alone, John." "I have to go out to the shops now." She will fall asleep until aroused by the next pain, and then make similar remarks.

Effect on the First Stage of Labour.—When the initial dose is given at the correct time I am certain that the first stage of labour is markedly accelerated. I will go so far as to say that the time of the first stage is in some cases actually halved. I have given a good deal of thought as to why this should be so, and can only conclude that scopolamine in some way or another acts as an irritant to the uterine muscle—if not on all unstriped muscle. It certainly causes some diuresis, and as the drug is excreted by the kidneys this has the advantage of rapidly removing it from the system.

Effect on the Second Stage.—The second stage of labour is usually affected adversely, being often prolonged, and for this reason forceps deliveries are more frequent in "twilight sleep" than in cases without drug treatment. The irritant action of the drug plays no part in assisting the second stage, even when the drug is withheld until the second stage is reached. I was at first inclined to the theory that the hurrying on of the first stage might tire the uterus, causing a modified inertia, but I have since abandoned the idea, because, as just stated, the same delay occurs when the initial injection is given after full dilatation of the os uteri. I am now of opinion that the explanation lies more in the fact that the second stage is largely dependent upon voluntary assistance in bearing down for its completion, and voluntary effort is largely abolished in "twilight sleep." It is my invariable rule to allow the second stage to proceed for two hours, and then if there is no prospect of the immediate birth of the head I apply forceps with the strictest regard for asepsis. A few drops of chloroform are all that is needed to induce anaesthesia to the obstetrical degree. I have had no case of puerperal sepsis with the following technique:—

While I am "scrubbing up" a nurse thoroughly cleans the perineum with the aid of soap and water and a soft scrubbing brush. When the patient is ready, a Clover's crutch is applied, and she is placed across the bed on her back with the buttocks just projecting beyond the mattress, under which boards have been placed to make it firm. I wear a sterile gown and gloves. A sterile towel is placed over each leg, one across the abdomen and crutch, and one on the bed upon which the buttocks partially rest. I swab the vulva well with lysol, 3i. to the pint, and also the vagina.

paying special attention to the urethra, preliminary to passing a catheter. Forceps are then applied and removed directly the head is crowned. Pressure with one hand over the sterile towel on the abdomen prevents the head receding. When the head is crowned a nurse injects 1 c.cm. of pituitrin deeply into the gluteal muscle. As soon as the child is born the cord is ligated; the child is then removed to another room so that its crying will not disturb the mother, who should be allowed to sleep quietly on, after having been made comfortable. I have always found the third stage quite normal in every respect.

It might be mentioned that at the commencement of the second stage I employ my time in applying hot fomentations to the perineum. These are wrung out of weak lysol, and serve the double purpose of sterilising the region and softening the tissues, thereby lessening the probability of a tear.

With regard to the vexed question of oligopnoea, I have only met with a few cases, in all of which the child spontaneously recovered without treatment of any kind. If wrapped in a warm blanket and left alone the baby will breathe normally in a minute or so. In one or two difficult forceps cases with a child born suffering from asphyxia pallida I have had recourse to a hot bath and artificial respiration. The only deaths I have to record were twin premature babies—born at six months. Both breathed, but died shortly afterwards. The mother had only one injection, and the children would not have lived in any case.

Particular Advantages of Twilight Sleep.

Twilight sleep is of particular advantage in breech cases and in minor degrees of pelvic contracture, where it is desirable that the second stage should be prolonged to obtain satisfactory results. I have given it with conspicuous success in cases with heart disease, and I noticed that in his article on "Heart Disease and Pregnancy"¹ Sir James Mackenzie mentions that twilight sleep ought to be useful in such cases, but frankly confesses that he has had no experience of the treatment. In elderly primiparae it is invaluable. One of its most striking benefits is in the appearance and feeling of well-being manifested by a patient after a long and difficult labour, which tends to endorse the absence of conscious suffering. Shock and exhaustion are largely avoided, and with their avoidance the long train of nervous after-effects and disabilities are mitigated if not entirely abolished. Surely the memory of an exhausting and agonising labour must leave in its wake a host of neurasthenic tendencies with a vivid dread of a recurrence of the event—modified though that dread might be by the knowledge that second children are less of an ordeal. Apart from economic reasons, a dread of this kind must adversely affect the birth-rate of the country.

For the busy general practitioner the scheme I have outlined above must often prove impracticable. The late Dr. F. W. N. Haultain speaks of good results obtained by leaving the injections to a responsible nurse, in telephonic communication with the doctor. The injections are given at stated intervals. The initial dose of scopolamine gr. 1/150 and morphia gr. $\frac{1}{4}$ is recommended, and thereafter scopolamine alone gr. 1/450 is injected every hour. "Although not scientifically correct," Dr. Haultain adds, "this method is sufficient to acquire the benefits required without danger." I would only add to this that the nurse should be instructed to miss an injection during any hour that the patient is heard to mutter at random, and that in a number of cases the dosage will be too small to be effective. In cases exhibiting an idiosyncrasy for the drug, who become unruly in consequence, a few drops of chloroform is all that is needed to quieten them. I have only met with one case who became so unruly as to require restraint, and I abandoned treatment on that account. Complete amnesia, however, was present during her case, and she remembered nothing of the labour.

There is no doubt that the effect of the drug varies in individuals, and I have found that, as a rough

working guide, the larger the woman the larger the dose she requires. It is because of this variance in reaction in individuals that acute differences of opinion exist both in medical and lay minds as to the benefits of the treatment, and I would urge medical men before they condemn "twilight sleep" to consider the impossibility of giving an opinion without experience.

In conclusion, I would state that the more I give twilight sleep the more I like it, and I consider it to be the greatest advance in obstetrics since the employment of chloroform. That it mitigates actual pain and does not merely obliterate the memory of it is evidenced by the absence of screaming—the needle prick of the injection often passing unnoticed—and by the general demeanour of the patient, which is indicative of well-being as opposed to conscious suffering.

DOMICILIARY TREATMENT OF BONE AND JOINT TUBERCLE.

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THE lesson of the war (reinforcing as it does some neglected lessons of the past) that infection has been an overrated, and depressed individual constitutional resistance a much underrated, factor in the production of tuberculosis, will have had its effect upon the mind of the tuberculosis officer. He will easily deduce that the outstanding indication for action is the fact that the disease is twice or thrice as common in the working class as amongst the rest of the community; and that the chief prophylactic measure, therefore, is economic—namely, social amelioration. He will now feel assured that housing reform, even if practicable under present conditions, will never suffice of itself; will see that much of the time spent in examining symptomless adult "contacts," or in delivering lectures promising an early abolition of tuberculosis, was wasted. And all this realisation that prevention is really in other hands than his, will, or should, make him a Voltairian cultivator of his garden—lead him, that is, to concentrate for the time upon treatment.

In this line there seems at first sight little of much promise. The sanatorium the tuberculosis officer rarely sees; tuberculin is deservedly dropping out of therapeutic use; lung collapse applies only to a scanty proportion of one form of the disease; chemo-therapy as yet only to the small group of skin tuberculides. But there does remain something. Two years ago I left Alton after a two months' stay kindly allowed me by Sir Henry Gauvain, to study the Continental methods of treatment of osseo-articular tuberculosis of which he is so accomplished an exponent; for that period of time I have been applying the working knowledge there gained in the ordinary practice of a tuberculosis officer, and the improvement in one's results is striking.

Problem of Accommodation.

In old days the general practitioner used perforce to send hip or spine caries to a general hospital, or try to get such into one or two overcrowded special institutions. The former plan was desperate. The general hospital had not accommodation enough, and the folly of making out-patients of those needing before all else continued rest in bed in one posture, is evident. Yet, unfortunately, practitioners are still prone to this method of disposal. What often happens is that the case is sent first for diagnosis, or confirmation of diagnosis, and then goes on attending for treatment. When the National Insurance Act came into force, sanitary authorities engaged beds at a special institution, perhaps an orthopaedic hospital. I have had good opportunity of comparing treatment by some orthopaedists with treatment by surgical tuberculosis specialists, and have found that of the latter to be the better; mainly, I think, by reason of

¹ THE LANCET, 1921, i., pp. 1163, 1230, 1281, 1342.