

A CASE OF OPIUM POISONING.¹

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THE record of the following case is interesting and instructive chiefly on two grounds—firstly, as showing how near may be a fatal termination, and yet recovery ultimately take place under vigorous and persistent treatment; and secondly, on account of the apparently antidotal effect of subcutaneous injections of atropia.

Alfred S—, a stableman, aged thirty-six, was admitted into the Middlesex Hospital, under my care, at 10.15 P.M. of Nov. 17th, 1883. Twenty minutes before admission he had swallowed, in mistake for porter, a draught intended for a horse, which contained a quantity of tincture of opium and compound tincture of camphor, equal to seventeen grains of dry opium. When brought to the hospital he was unconscious, but was breathing fairly, with a good pulse; his pupils were contracted to the size of pin's-heads. While the stomach-pump was being got ready, the breathing, which had been gradually becoming slower, ceased altogether, and he became deeply cyanosed. Artificial respiration and faradism were then resorted to, which had the effect after a few minutes of restoring respiration, and with this a return of natural colour to the face. The stomach-pump was then passed and the stomach well washed out, the returning fluid being at first of a brown colour, and containing but little solid material. After this his breathing failed a second time and rendered a return to artificial respiration necessary. This was kept up for an hour and a half, and its effects aided by faradism and flicking the face and chest with wet towels. The stomach was again washed out and about half a pint of strong coffee introduced into it. An enema of brandy was also administered. Improvement again ensued, and he was walked briskly up and down the hospital corridor for about three-quarters of an hour, after which he was able to swallow some coffee and brandy. Even then, however, he relapsed if left alone for a moment, and he was accordingly walked up and down the garden for half an hour. Till now his pulse had been pretty good, but on returning from the garden it was found to be small and weak, numbering 140 in the minute, and he relapsed into a condition of profound unconsciousness. The respirations were now only two in the minute. The condition of his breathing, however, was speedily improved by a further recourse to artificial respiration, and his pulse by a subcutaneous injection of ether. As the respirations speedily sank again to two in the minute when artificial respiration was omitted, it was decided to try the effect of atropine, and accordingly one-sixtieth of a grain of the sulphate was injected subcutaneously and repeated in half an hour. His respirations, a few minutes later, were found to be fully doubled on the average. They were irregular however, as he had several respirations one after another, followed by a period of apnoea. The pupils also were soon noticed to be less contracted. If left alone he immediately lapsed into a deeply soporose condition, but could be roused by two or three sharp slaps on the face. After this compelled exertion was again employed, and about 4 A.M. (Nov. 18th) he was taken into the ward and put to bed, an enema of beef-tea and brandy being given. He was now able to tell his name, and he swallowed about an ounce and a half of beef-tea and brandy. His respirations after this varied between six and ten per minute, and he was prevented from falling into a deep sleep and freely stimulated with brandy. At 11 A.M. he was found to be much improved, and could answer questions intelligently, although still sleepy. The respirations were then from ten to twelve per minute. From this time till 2 P.M. there was little change, except that in the interval he had several attacks of vomiting. The note made at 5 P.M. states that he had vomiting again, and the respirations were fourteen per minute. At 9 P.M. the temperature was 99.4°; respirations 20, and he had again vomited. On the following morning (Nov. 19th) his temperature was 99.2°, he had vomited only once during the night, and had slept well. He complained, however, of a dull headache, and general aching and soreness. His urine was acid, had a specific gravity of 1015, and contained one-eighth of

albumen. His pupils were noticed to be abnormally large. The evening temperature was 100°. Next day he was much better although still somewhat drowsy; his temperature was normal, and his pulse 76. On the 22nd his bowels were opened naturally and his appetite was improving, the temperature being rather below the normal, 97.8° in the morning, and 97.2° in the evening. Next day he suffered a little from headache, but the bowels were open and the urine was found to be free from albumen. He was now able to be up out of bed, and he improved rapidly, his pupils gradually became smaller, and he was discharged well on Nov. 28th.

The symptoms which followed the man's recovery from immediate danger were such as are commonly found in cases of opium poisoning. He had the nausea and sickness, with headache, anorexia, and slight albuminuria. Contraction of the pupils was replaced at first by slight and afterwards by marked dilatation, which lasted for some days, and was no doubt due to the atropia injections. This opens up the question of the atropia favourably influencing the course of the case, and it seems more than probable that it had this effect. It is certain, at all events, that a marked improvement in the condition of respiration almost immediately followed the injection of atropia, and from the subsequent dilatation of the pupils there could be no doubt that it had produced some physiological action. It was obvious that the patient was in danger of death more from apnoea than from cardiac failure, and was consequently in the state most likely to be benefited by the antagonistic action of atropia; for many observers are agreed that there is a real antagonism between the two poisons, in the human subject at least, in their action upon the respiratory centre. It is worthy of note in connexion with this view that recourse to artificial respiration was not required after the injections.

I should mention, in conclusion, that the satisfactory result of the case was due mainly to the prompt and energetic action of the resident medical officer, assisted by the other resident officials of the hospital.

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TREATMENT OF MORPHIA HABITUÉS BY SUDDENLY DISCONTINUING THE DRUG.

By S. A. K. STRAHAN, M.D.,

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DR. B. W. RICHARDSON, in his recent paper on "Morphia Habitués and their Treatment," read before the Medical Society of London, called attention to what is undoubtedly a growing disease in this country. Twenty years since an opium-eater was, like an honest man, "one picked out of ten thousand," but nowadays I would venture to say there are few practitioners who do not know of at least one case of this vicious habit. As yet there seems to be some doubt as to the best mode of treatment in such cases, some believing with Dr. Richardson that where the habit has become deeply rooted the drug should be taken away gradually, and others that in all cases its sudden and total discontinuance gives the best result. To settle the question we must compare the results of the different modes, and to do this it is necessary that we have records of cases. Dr. Sharkey has given a most minute and interesting account in these columns of an extreme case, and I would put forward the present in a condensed form on the same side, hoping that it, also, may prove interesting, more especially as it displays some of the rarer symptoms noticed by Dr. Richardson as being found in morphia habitués, including general weakness of the mind accompanied by a strong desire for lying.

My patient was an American lady of means, single, aged twenty-nine, and had acquired the habit in her own country three years before. She was markedly phthisical, having been first ordered morphia for some pulmonary trouble, and it is worthy of note that though a very delicate woman, she came well through the no doubt severe trial of the sudden removal of the drug and began to make flesh within eight days. It is also to be noticed that my patient all along administered the drug to the system, not, as is usually the case, hypodermically, but through the stomach, swallowing the morphia as a powder followed by a mouthful of water. She stated that without the morphia she was weak, languid, listless; without energy or desire,

¹ Read at the Medical Society of London on March 24th.

and that almost immediately after her morning dose, which she took fasting, she was inspired with new life and energy. During the three years which she took the drug she made two attempts at giving it up, but she "felt so weak and ill and miserable, and suffered from such severe headache and vomiting," that she had to go back to the habit despite her resolution. Beginning with minute doses, she in three years increased the dose to above eight grains of the acetate of morphia in the day. It all along caused constipation, for which she regularly took saline aperients, and she stated that it never made her dull or sleepy, although she could not sleep without it. During the last two years she had used belladonna in consequence of the action of the morphia on the pupils, and at periods of about three months she had suffered from severe bilious attacks accompanied by headache and the vomiting of bilious matter, which attacks she ascribed to the action of the morphia. She bought the morphia by the ounce, and "kept it in a bottle, taking her doses at all times by guess, and only taking a big dose when she felt that she needed it." She consumed an ounce every two months during the last year, "or in rather less time towards the end." On her showing me the bulk of her dose, it appeared a very good guess for five grains, and this dose she had taken morning (fasting) and evening (bedtime) daily. An ounce in two months gives eight grains a day for sixty days. On Sept. 17th she experienced for the first time pleasing and beautiful visions. These took the form of pictures, statuary, &c., with vague but gorgeous surroundings; and some "power"—not voices—explained, or, rather, enabled her to appreciate, all their wonderful and strange beauty. These visions appeared while she walked or wandered in a public park, and recurred on the following day, she having taken a large dose of the morphia, and again sought the magic shades of the park. This repetition of the increased dose and second wandering in the park point to a certain amount of volition in these visions, or at least to a total absence of any desire to shake off the strange but pleasing sensation. She was on this second day picked up in a dazed or stupid state, and on a bottle labeled "morphia" being found in her pocket, she was first charged with attempting suicide, but afterwards was certified as insane and sent to an asylum. From this time (Sept. 18th) she had no morphia or other hypnotic or sedative except on the evening of the tenth day, when she had a draught containing fifteen grains of chloral and thirty grains of bromide of potassium. The symptoms appearing after the discontinuance of the drug were, with the exception of hyper-sensitiveness of the skin, which was not noticed, almost identical with those so minutely noted by Dr. S. J. Sharkey in the record of his case which appeared in THE LANCET of Dec. 29th last, and need not here be repeated. She was at first restless and sleepless, suffering much from a feeling of extreme weakness, frequent vomiting, headache, severe burning pain in the stomach, complete anorexia, constant but not alarming diarrhoea, and rather profuse general sweating; hiccup was not very troublesome, but was noticed by the patient. A mixture of carbonate of bismuth with ginger and orange was ordered, which quieted the stomach considerably. The appetite was on the sixth day fairly good, and soon became very sharp. The diarrhoea continued in a mitigated form for over sixteen days, and gradually disappeared. She improved daily, and in thirty days gained twenty-three pounds in weight. Mentally she was on admission suffering from a low form of mania bordering on dementia; in fact, her mind and body were in much the same state—viz., extreme general debility. She had delusions of a vague character at first, but these disappeared in a few days and left her mind quiet but very weak. She was listless, dull, and apathetic in the extreme, often cried, but had occasional short periods of exaltation. Finally, with regard to the truthfulness of her statements, I found she was, to put it mildly, most inaccurate in many things, although on other subjects she spoke truthfully and honestly. There did not seem to be any aim or end in view to account for these perversions of fact, yet it was noticed that many of these tales tended rather to show her own superiority mentally, socially, and otherwise.

The patient was discharged from the asylum on Oct. 30th, apparently recovered, looking infinitely better than on admission, eating and sleeping well, and with no desire, she said, for a renewal of the morphia eating.

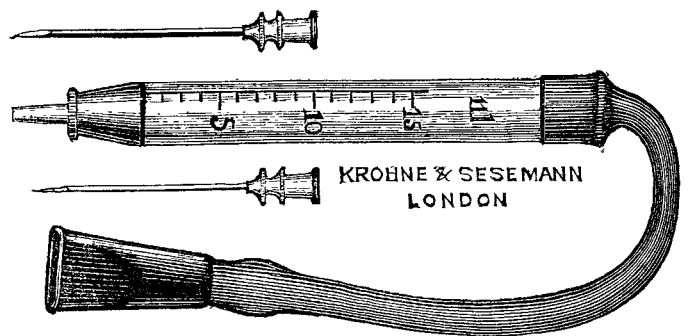
Whether she relapsed I cannot say, as I have not since been able to discover her whereabouts.

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THE SUBCUTANEOUS INJECTION OF MORPHIA.

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BARTHOLOW writes with much earnestness¹ on the superiority of extemporaneous over permanent solutions of the alkaloids for hypodermatic medication, and he adduces a powerful argument against those of the latter character—viz., their rapid tendency to deteriorate from the development of the penicillium, which grows partly at the expense of the alkaloids, and hence whilst such solutions increase in turbidity they decline in power. But there is a still more cogent reason against the employment of permanent solutions of morphia. Everyone is aware that apomorphia, which is a speedy emetic, even in minute doses, differs only in formula from morphia in containing a molecule less of H_2O , and whilst many practitioners have been disagreeably surprised by the prompt emesis consequent on the subcutaneous injection of "morphia," few actually realise the fact that morphia, kept in solution for some weeks, decomposes and yields apomorphia. In order to prove chemically the point at issue, which is unfortunately every day being illustrated physiologically, I have, with the kind assistance of Professor Bedson, recently conducted a series of experiments on various preparations of morphia, apomorphia, and their salts. Nitric acid and perchloride of iron, excellent reagents though they be for discriminating between morphia and apomorphia when separate, are quite valueless for detecting traces of the one when mixed with a comparatively large quantity of the other. Solutions, even the most dilute, of apomorphia and its salts, on being boiled



with excess of caustic potash, oxidise rapidly and turn brown, whilst solutions of morphia do not, and this appears to be the crucial test for traces of apomorphia in the presence of morphia. Less than $\frac{1}{1000}$ th of a grain of apomorphia can be detected by this method, and the examination of solutions of morphia, of ages ranging between two months and two years, has demonstrated apomorphia in all, the impurity existing in relatively larger quantity in the older and more discoloured specimens, which are notoriously those especially prone to excite vomiting, and therefore certainly unfit for subcutaneous administration. The practical outcome is obvious. In hospital practice, where the consumption of morphia is large, "permanent" solutions may be used freely, since they are in reality "extemporaneous." But in private practice the case is different. Here hypodermatic medication is often not resorted to for weeks together, and the use of extemporaneous solutions is loudly called for. On this consideration I have obtained samples of sulphate and bimeconate of morphia, in the form of Wyeth's compressed tablets, prepared about three months ago. None of the solutions of these tablets, on being boiled with caustic potash, and subsequently agitated with air, turned brown.

The condition of the syringe employed for the operation plays a very important rôle in the success of a subcutaneous injection. Though the instrument be periodically inspected by its maker, and the washer frequently anointed and often renewed, so that the piston shall slide properly within the barrel, the syringe is still not irreproachable, for contact of the medicated solution with a greasy piston is surely most objectionable. Recently complaints have appeared in the journals against what is by no means a necessary evil, and a simple means of obviating the difficulty might be found in the adoption of a suitable pipette,

¹ A Manual of Hypodermatic Medication, fourth edition, p. 30, et seq