

one of "athetosis," for it has many of the features ; indeed, when the movements are marked in the fingers and toes, and have almost ceased in the face, the case might pass as a typical example of it. I have always considered that disease, as described by Hammond, as simply a form of limited chorea, and quite undeserving a special name and description, but where authorities differ, my opinion may not be thought of much weight.

On the Use of Hyoscyamine.

1. Remarks by Dr. G. M. BACON, of the Cambs. Asylum.
2. Cases, with Remarks, by Dr. HILLS, of the Norfolk Asylum.

(1) DR. BACON'S REMARKS.

I venture to offer my experience of the use of the above drug for the purpose of comparison with that of other observers. I am anxious not to appear as an *advocate* of this or any other medicine, having a rather limited faith in the efficacy of drugs in the treatment of disease. It is so difficult to be sure that the results observed are fairly due to the ascribed cause that it is but seldom that any drug can be credited with a direct curative effect. The effects of most medicines are so uncertain and indefinite that it is well-nigh impossible to attribute any positive results to their administration in the face of so many disturbing causes. In dealing with potent drugs the case is different. When the toxic effects of an agent are produced it only remains to ascertain whether these are beneficial or not. For this reason it is easier to pass a judgment on the value of such a drug as hyoscyamine than of morphia or chloral, &c., because its affect is obvious and ascertainable. I will not now discuss whether it is good to give a sedative or not, but only relate my experiences. The preparation I have used has always been "Merck's extractive alkaloid," dissolved in spirit, for convenience, of the strength of one grain to a drachm of spirit. I have never given more than $1\frac{1}{4}$ grain, and I usually give either one or two-thirds of a grain as a dose. If one-third does not bring sleep, I double the dose. The usual effect is to send the patient into a heavy sleep in half-an-hour, or even less time, and this may last for six hours, or even more. I have very seldom found it produce sickness, and not, as a rule, interfere with the appetite. I fancy, from

what one or two patients have said, that it produces a sensation of fulness and throbbing and headache, and I have seen the face congested and the prolabium purplish. The pupils are widely dilated. I have used this preparation for two years past, and have found it very useful in many cases. I have given it in cases of acute mania, of general paralysis, of chronic excitement, and may safely say it has been of greater use than any other narcotic I have employed. In acute cases, where it is difficult to get medicine down at all, it is a point to be able to give one small dose of fluid and be sure of quieting a patient for several hours. This cannot be ensured by chloral or opium, as the consequences of a dose of Batley, &c., &c., can never be reckoned on, and sickness leaves the prescriber in ignorance of how much has been absorbed by the system.

In chronic cases one dose a day will quiet a patient without reducing him or her to a comatose case, for very frequently he or she will wake up after four or five hours, take a meal, and remain much more composed.

In one case—that of a female general paralytic—I gave this drug for several months off and on, and for a long period daily, or twice a day, in doses of three-quarters of a grain. Not only did this not injure the patient, but she got fat, took plenty of food, and ended by getting more tractable and sensible. It seemed to lose some of its force after a time, but always composed her. I have only met with one case which resisted the usual effects of a large dose, and that was in a young woman with a second attack of acute mania, who was very noisy and excited, and on whom it produced but little sedative effect, although it dilated the pupils.

I also tried it in a case of recurrent mania—that of a man who was liable to attacks of excitement, which used to last for weeks together. On four separate occasions I treated him with single doses of two-thirds of a grain of hyoscyamine once in every 24 hours, and on the first he recovered in eight days and on the subsequent three in 16 days. This was a decided improvement on weeks of previous nugatory treatment.

I considered it likely that hyoscyamine would be a useful remedy in delirium tremens, and at the Cambridge Medical Society in June, 1880, I made the suggestion. Since then two gentlemen practising there have tried it, and told me they met with most gratifying success.

I wish, however, to state what dangers or disadvantages I know of in connection with its administration, and I will give three instances which have occurred within my knowledge.

I was called in once, by chance, to see a lady of title, for whom I prescribed a quarter of a grain of hyoscyamine for insomnia, but, owing to some misunderstanding, she only got not quite half the dose I ordered. The result was the lady became delirious, agitated, and excited, and a great hubbub arose in the house. Nothing could induce her to repeat the experiment.

In another case a medical man, suffering from locomotor ataxy, wrote to me, in consequence of reading in the *Lancet* of my remarks on this drug, asking for a dose. I declined any responsibility for the prescription, but sent him two or three doses, with instructions what he might safely take. The result was, in his words, "disastrous," and I give his description of his experiences, as graphic as it is painful:—

"I took the dose, and slept well all night, but next day I hardly knew what I was about, and the ataxy pains much increased, with utter want of appetite and tendency to vomiting. . . . The second night I took *half* the dose you prescribed. This did not give me sleep, but produced instantly a great flush over the face and body. I was told by those who sat up with me that my brain was full of hallucinations, the pupils very dilated, and the cheeks puffed out. I, of course, have taken no more, but it acted upon me as an irritant poison, and I have only just now got rid of its effects. It especially affected the cerebro-spinal system and stomach and upset all my habits with regard to other medicines. I consider it a most dangerous medicine, and it should be used with the greatest caution."

In a third case the patient met with a curious accident. He had taken several previous doses of the medicine, and took one about an hour after a meal of bread and tea only. About four hours afterwards he vomited while he was so far narcotised as to be unable to rouse himself, and as a result, some of the semi-fluid contents of the stomach regurgitated into his larynx. I was summoned hastily, and told he had had a "fit," but on examination I found that his mouth contained particles of bread and other food, and I got these out as well as I could. I then found that his left lung was obstructed, clearly by the impaction of food in the bronchus. The man recovered, but I thought tracheotomy would have been called for, and his life was in some danger for two or three hours. I record this "accident," but it need not be more of a reproach to hyoscyamine than opium, had the latter been given.

G. M. B.

(2) CASES RECORDED BY DR. HILLS.

Dr. Hills says :—

For several months past I have been trying Merck's extract of hyoscyamine in the treatment of cases in the Norfolk Asylum, with a view to testing its utility in comparison with other drugs commonly used in the cases that occur in public asylums. I may say at once that in the majority of cases the result has been very successful. I append notes of several cases in which the results have been recorded pretty closely, but I may add that I have tried the drug in many other cases of mania with satisfaction. In cases of recurrent and of chronic mania it appears to be most especially valuable. In acute cases, when other sedatives have been repeatedly tried and failed, a small dose of hyoscyamine given early in the morning may quiet a patient who has been violent and excited for days, without producing any sickness or impairment of appetite.

In cases of recurrent mania it has been tried with eminent success. In many instances a small dose, administered in tea at breakfast acted as a calmative, and moderated the violence and destructive habits of the patients to whom it was given. In several cases of chronic maniacal excitement, when other sedatives had failed, hyoscyamine had the effect of tranquilising the patient and rendering him more manageable. In some cases even a small dose produced sickness of a distressing character, a tottering gait, and great prostration, but these were quite the exception.

In all cases it produced dilatation of the pupil, impairment of vision, and an unsteady gait. The physiological action of the drug was, as a rule, produced in from one to two hours. During the four or five months that the drug has been given it has been found that the patients taking it have slightly decreased in weight, but this loss might as fairly be attributed to the constant excitement and wear and tear as to the action of any drug.

The cases recorded below tell their own tale, and, without wishing to exalt the virtues of any drug, I cannot but say that in my opinion we have a very useful remedy in Merck's extract of hyoscyamine.

Two Cases of Acute Mania. (Females.)

I.—M. A. N., æt. 31, married; admitted Jan. 26th, 1880. Insanity hereditary.

From the day of her admission, now nearly a year ago, she has

been noisy and excited, at times very violent, and invariably dirty at night, destructive in her habits, and most incoherent in her conversation. So unmanageable was she that the sole attention of two attendants was monopolised. During the first eight months of her residence various sedatives were given, with very indifferent results, and without the desired effect of quieting and rendering her more manageable.

In September, for the first time, she was given a dose of solution of hyoscyamine, containing one grain of extract to the fluid drachm. Fifteen minims of this were given her before breakfast. There was neither nausea or vomiting; she took her meal well, and within an hour and a half she was quiet and tractable, and sat quietly where she was placed in the ward, the following physiological facts being observed:—

1. Pupils were widely dilated
2. Secretions not checked.
3. No dryness of fauces.
4. Pulse rather increased in volume, but normal in rapidity.

When spoken to she answered in her usual incoherent way. This effect was only of short duration, for after four hours' quiet the influence of the drug seemed to exhaust its powers, and she relapsed into her usual excited and destructive condition, and could not be left for a minute. On the succeeding night she was dirty, as usual, and slept but little.

The following day fifteen minims were again given, with similar effect.

The dose on the third day was increased to twenty minims, and this had the effect of controlling her excitement and carrying her through the day. Physiological effect was much the same as on first day. Did not affect her appetite, nor did it produce nausea or sickness. During the last four months, as a quieting agent, it has been constantly given to her. No particular tolerance of the drug was at all well marked, for twenty m. of solution daily produced the same effect. Since its administration she has gone as many as four days without the medicine, during which time her habits have been cleanly at night, and during the day she has been no particular trouble. Her conversation, however, was as incoherent as ever. Whenever, however, she became restless and unmanageable a dose of her medicine was given, with certain beneficial effect. On several occasions a second dose was given at bedtime. During the night she was quiet, slept well, and her appetite did not fail, and when excited she now takes twenty m. in her tea at breakfast. At menstrual periods, when she is, and always has been, more excited than at other times, she is allowed to remain in bed, and no drugs are administered.

She has decreased a few pounds in weight, a loss which might otherwise have occurred from her being in a constant state of maniacal excitement.

Acute Mania.

II.—A. M., ætat. 41, single (paternal grandfather insane). A previous attack. She was admitted in July, 1880, in a restless, noisy, and excited state, most incoherent in her conversation, and almost unmanageable. During the first fortnight of her residence here she was in the condition above described. Took her food very badly, and was constantly struggling, and to prevent her being very seriously injured or bruised in the attempts made by attendants to restrain her, she was placed in the padded room, where, from maniacal exhaustion, she nearly expired. However, with persistent attempts at feeding and occasional doses of bromide and chloral—which invariably tranquillised the system and produced sleep for some hours—she slowly recovered, and became so much better that, assisted by a person on either side, she could walk into the dining-room, where she sat quietly, and was able to answer questions regarding herself correctly. This condition, however, was only of temporary duration, for she relapsed into the excited and unmanageable state before described, and during the months of August and September was a constant source of trouble and anxiety, upsetting chairs and tables, smashing crockery, &c., if left only for a moment. To complete her toilet has now become a most difficult operation, and it is all that two attendants can do to dress her without using necessary force. Various combinations of sedatives were given, in the shape of bromide of potassium and chloral, chloral and nepenthe, morphia, &c., without producing any evident beneficial effect, for when given in sufficiently large doses to quiet her for any length of time sickness and distaste for food was the result, and they had to be discontinued.

For the last four months hyoscyamine has been regularly given to her, commencing with ten minim doses of solution, in her tea at breakfast time. The effect of this was to tranquillise and humanise her, for within two hours of its administration she was quiet and easily dressed by one attendant. Pupils were dilated, her gait was rather tottering. This dose did not produce sleep. She did not refuse her food, and, with the assistance of an attendant, walked about in the airing ground. As the effect of this dose was only of temporary duration (two to two-and-a-half hours), after some days' trial 15 m. were given, and this dose rendered her, and does still, quiet and manageable from the time she is got up, at 10.30, until about four in the afternoon, when the action does not seem to have any influence, and she is noisy and destructive, and requires, as she does without it, the attention of two attendants. Seven weeks since she did not seem very well, and was thinner, had lost several pounds in weight, and her features looked pinched and blanched. The drug was ordered to be discontinued, and a week's rest in bed was given to her, and the most nourishing diet—beef tea, milk, eggs, &c. During this time she was very excited, and at the expiration of the week the usual difficulty in dressing her ensued. No medicine of any sort was

administered for some days. She was extremely unmanageable, and several bruises were unavoidably inflicted by her attendants in the attempts made by them to restrain her from breaking furniture, &c. Being in much better plight, and having overcome her attacks of indisposition, hyoscyamine was again resorted to, in doses of 15 minims, with the most satisfactory results, acting as a calmative, allaying her furious excitement without any injurious effect, for she takes her meals well and regularly, and during the last seven weeks has gained flesh and weight. Larger doses of 20 minims were on several occasions tried, they on each occasion producing sleep, but from which she awoke quiet and manageable.

Four Cases of Chronic Mania. (Females.)

I.—J. P. E., *ætat.* 31, married. Hereditary influence ascertained; subject also of previous attacks. Re admitted in April, 1880. Very irritable in temper, filthy in her habits, and most destructive. Is very stubborn, and, if in any way thwarted, is inclined to be very violent. From the time of her admission until November various sedatives, alone and in combination, were tried, with little or no beneficial effect, for she was quite as destructive and mischievous, and could not be left without an attendant for a moment.

In the beginning of November 15 minims of the hyoscyamine solution were administered in her tea at breakfast time, and this had the effect of rendering her quiet and tractable. It produced, as in other cases in which it had been tried, dilatation of pupil and an unsteady, tottering gait. She does not attempt to destroy her clothing as formerly, and sits quietly all day long, giving no trouble whatever. Her appetite does not suffer at all, for she takes her food as heartily as formerly. As her habits are very filthy at night, 15 minims were several times administered at bedtime, with favourable results, for she has been clean in the morning. When, however, it has been given twice daily the effect was too stupifying, and she did not take her food well. For the last three months she has daily had a 15 m. dose. No ill effects are at present apparent; she has not lost weight, takes her food well, and is more cleanly in her habits. During the catamenial periods she is, and always has been, more violent than at other times. The use of the medicine is then suspended, and she is kept in bed.

II.—M. B., *ætat.* 31, single. Admitted in 1872.

She is a tall, powerful girl, the subject of recurrent mania. When first admitted the interval between the attacks of mania was of longer duration than it has been for the last two years. During this time she has had more frequent periods of excitement, which last about three weeks; she is then most violent, attacking patients and attendants without any provocation, and her habits on these occasions are dirty and objectionable. Until the last three attacks various combinations of sedatives were tried, but they had no effect in controlling her fury.

In the intervals between these outbursts of mania she is quiet, industrious, talks sensibly, and makes herself very useful in the wards.

Hyoscyamine has now been given with most satisfactory results. A dose of 15 minims, given in the morning, quiets her during the day and night, and sometimes during the second day. In her it produces no unpleasant effects whatever; she takes her meals well, and walks quietly about the wards and corridors. She attempts to work, but on account of her widely-dilated pupils is unable to see clearly. Since the administration of the drug she appears to get more quickly over her attacks, the duration of her excitement being only about a fortnight, and the lucid interval between is not in any way shortened. It never fails in its action in rendering her quiet and manageable, not violent as heretofore, and she can be allowed with safety to walk about the ward without any fear of her attempting to injure any one.

III.—J. G., *ætat.* 29, married. Previous attack. Present attack of more than a year's duration.

Admitted here in June, 1880, from the Essex Asylum. For some time no medicinal treatment was resorted to. She, however, became more maniacal, very violent at times, and destructive. Various drugs were tried, but without much beneficial effect. In November 20 minims of the solution of hyoscyamine were given, and it had the effect of quieting her without producing any apparently injurious effect, and during the last three months she has almost daily had a dose, excepting at the catamenial period, when she is allowed to remain in bed; and on one occasion, when she was for ten days tried without any medicine at all, this time she was excited and restless, and had to be restrained from rushing about the place and upsetting the furniture, &c., and violently attacking those around her. At the expiration of the ten days it was again resorted to, with the same certain effect. A smaller dose of 10 minims has on several occasions been tried; this, however, seemed rather to excite than tranquillise her, and a second dose had to be given before she was rendered at all manageable. In this case a 20 minims dose has never produced sickness or nausea, nor has it affected her appetite, for she takes her meals well and regularly. She has decreased a few pounds in weight, but does not look any worse for the continued use of the drug, which, as before said, never fails within one hour to one-and-a-half of its administration in producing its effects. She is now, under its influence, quiet, not destructive, and, on the whole, cleaner at night than she was.

IV.—E. B., *ætat.* 43. Duration of mania, two-and-a-half years.

Admitted here in Nov., 1879. Since her admission her conversation has always been most incoherent, her manner flighty, and at times she has been disposed to be violent and destructive. She has a wild appearance, is constantly wandering about and muttering to herself. She has always been subject to paroxysmal outbursts of excitement,

and is violent when thwarted. For some time bromide and chloral had the desired effect of rendering her more manageable. This, however, soon failed in its action, and chloral and nepenthe were substituted, with beneficial results, for a time only, however, for these like the chloral and bromide, after a time failed to quiet her.

In November she was much more troublesome than she had been for some time, and as other drugs had failed, hyoscyamine was tried, with the following effect:—15 minims were given immediately after breakfast. In her case it produced nausea and vomiting; she could not take food, and was for some hours very prostrate. After it she was quiet and manageable for two days; she then relapsed into her usual excited condition. Small doses were subsequently tried, but with similar unpleasant effects, and on this account the drug had to be discontinued.

Vomiting came on within an hour of its administration; pupils were widely dilated, and her gait was very unsteady. She was not, however, at all sleepy, but sat quietly wherever she was placed. Her features looked pinched and rather flushed. There was dryness of throat, and the patient's voice was hoarse.

Two Cases of Recurrent Mania. (Females.)

I.—S. S., ætat. 38. Admitted 1862. Since her admission here she has been subject to frequent attacks of excitement, when she is very violent and dangerous; and although at one time useful in the wards, she is now incapable of doing any work at all.

For the last two months (1881), during her paroxysms of excitement and violence, hyoscyamine has been given with certain beneficial result; it controls her, and she can safely be left to her own resources without any fear of her attempting to violently injure any one.

Twenty minims of the solution were at first given, but the effect was too powerful, producing sleep, from which she awoke drowsy and unable to stand.

After several trials, it was found that a dose of 12 m. had the effect of rendering her quiet and manageable without impairing her digestion or reducing her weight. Toleration for the drug does not seem to be at all established, and 12 m., whenever it is necessary to give it to her, never fails to tranquillise her.

In this patient, as in the other cases in which it has been tried, the drug produces dilatation of the pupil, temporary impairment of vision, and an unsteady gait.

II.—S. W., 45. Admitted 1860. Since her admission she has been subject to attacks of recurrent mania, when she has been restless and very destructive, tearing up anything she could get hold of, breaking chairs, &c. Latterly, during her paroxysms of excitement, hyoscyamine has been administered with greater success than any other drug or drugs that have yet been tried. It is now given to

her in her tea at breakfast time. A 15 m. dose of the solution in about an hour-and-a-half renders her quiet and manageable; she speaks when spoken to, and walks about the ward without tearing and destroying articles as she formerly did. The duration of the attack of maniacal excitement is not at all prolonged by the administration, for after a certain period (generally about a fortnight) she gradually settles down and remains quiet, until after a little excitement, or without any known cause, she becomes noisy and destructive again. The hyoscyamine is then again resorted to, and a daily dose of 15 m. has the desired effect. In this case also no toleration appears to be established by its continued use, for a 15 m. dose administered daily never fails in its effect. It has never produced any unpleasant symptoms—no nausea or vomiting; she does not lose flesh, and never refuses a meal. The pupils, as in the other cases in which its action has been tried, are widely dilated, and the patient is able to discern near objects. Of all the drugs tried, hyoscyamine is certainly the most satisfactory, for to render her at all peaceful by the administration of other sedatives, such as chloral, bromide, opium, and its preparations, &c., large quantities had to be given and repeated during the day; her digestion then became impaired, and there was a disinclination for food. This state of things has not yet manifested itself while she has been taking hyoscyamine, and her health does not seem in any way to be affected.

Case of Acute Dementia of rapidly Fatal Termination. By
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lington House.*

Cases of recent insanity having a speedy fatal termination in young and fairly healthy subjects are fortunately sufficiently uncommon to claim some attention when they do occur, and more particularly so when the co-existing mental symptoms would place the case in a series in which, as a rule, life is but little endangered. This is my reason for venturing to bring before this society to-night notes of a case of what appeared to be acute dementia in a young woman, ending in death in about six weeks from the commencement of the malady; and if I go somewhat minutely into details, I must plead as my excuse my desire to make it plain, that this case, which presented in the first instance, some anomalous symptoms, could not, upon the whole, have been correctly assigned to any other class.

* Read before the Quarterly Meeting of the Medico-Psychological Association, March 9th, 1881.