

scoundrel, Stertinius Xenophon of Cos, who aided Messalina to poison Claudius; or, again, of a lesser order of turpitude—to the swaggering impostor, Thessalus, and his like. The huge fortunes left by these medical adventurers, fortunes estimated in scores of millions of sesterces, whatever these sums may mean to us, speak not only of the unscrupulous rapacity of the Greeklings who hied to Rome to shake the pagoda tree, but also of the ill-gotten spoils and bloating diseases of their patrons. In venality there was not much to choose, perhaps, between Vettius and his like and Crassus, "the great slum landlord." Yet while such evil men were flourishing, men of modest mien and honest, kindly nature, men, moreover, of skill and resource, if less notorious were by no means wanting; such men as Antonius Musa, to whom Galen testifies as the able physician of Augustus and the friend of Virgil,* Horace, and Mecenas; or such as Mege, of whom Celsus speaks as "the very wise," who was the best pupil of Themison, and the first to reduce a forward luxation of the knee,† and to describe carefully certain scrofulous conditions. Of the esteem and affection in which many such honourable and skilful physicians were held we have ample warrant in contemporary authors, as, for instance, in Cicero and Seneca. Seneca has left us a beautiful portrait of his own physician, of whom he gratefully says, "*pretium operae solvitur, animi debetur.*" Perhaps it was during the period of the Spanish emperors, if we may rely on Galen himself, Plutarch, Pliny the Younger, and Dion Cassius, that, superstitious as the period still was, physicians stood highest for probity, skill, and beneficence. By these authors many such men, to us now but *noninis umbrae*, are named with honour and affection.

In the midst of the swelter, towering above all, as great monuments rise above turbid and devouring floods, beacons for their own age and for all ages, stood, and yet stand, the great figures of Asclepiades and Galen, in fame unequal but in the gifts of Nature not unequal. Of these great men, and of Asclepiades especially, I spoke in Lecture II, published in the JOURNAL of November 27th.

ON SOME USES OF OPIUM.

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AMONGST the many new sedative remedies which in recent years have been introduced into the market, opium and its alkaloid, morphine, seem in danger of losing much of their traditional repute. As a hypnotic opium has been practically superseded by newer and more fashionable specifics; and as a general tranquillizer of nerve and muscle it has been forced far from the position it used once to hold as the very first in importance and usefulness of our therapeutical possessions.

For the relief of pain opium and morphine are no doubt still resorted to, but even in this capacity their claims are often set aside in favour of antipyrin, aspirin, and other recent analgesics. Unless pain be actually present opium is now but rarely prescribed. It is often forgotten that the drug has stimulating as well as sedative properties, and that as a general stimulant to the nerves, the brain, and all the organs of life its value even for this quality alone entitles it to a high place in the esteem of the practical physician. Opium and morphine are not quite the same in this respect. Of the two it is in the former that the quality is most active. Its stimulating effect is best brought out by the use of small doses given at convenient intervals, for in a full dose the sedative influence of the drug is so decided that any primary stimulating effect passes off too quickly to be noticeable. This stimulating action is well seen in cases of indolent ulcers of the skin and mucous membrane. Such sores which had resisted previous treatment will be found to show a surprising improvement after only a few doses of the remedy. The pale, unhealthy-looking surface becomes red and is soon covered with closely-set granulations, while its

secretion changes from a thin serous fluid to healthy-looking pus.

This invigorating influence can be turned to account in the case of obstinate sores occurring in cachectic children. The ulcerative stomatitis which is so common amongst the ill-fed and badly-nourished children of the very poor often shows little disposition to heal, even when treatment is reinforced by a generous diet and healthy surroundings. When repair is thus at a standstill, a few drops (2 to 5) of laudanum given twice a day quickly induce a welcome change in the local conditions, and start an improvement which goes on smoothly to a cure. I have had lately under my care a case of gangrenous varicella in a child 12 months old. When the patient was admitted into the Shadwell Hospital the sloughs had just separated, leaving a number of clean-cut and very deep ulcers on the child's back. The sloughing process had gone completely through the skin and subcutaneous tissue to the muscular layer beneath them; and the sores had an angry, unhealthy look, and seemed little disposed to heal. An iodoform dressing was ordered, and 1 drop of laudanum was given every four hours. Three days later the appearance of the ulcers had quite changed; the unpromising look had passed away, and healthy granulations were beginning to show themselves at the bottom of the hollows. The opium was continued, and the sores were dressed with zinc lotion. On account of the depth of the pits they were able to fill up but slowly, but improvement went on without any break, and at the end of four weeks from her entrance the child was discharged from the hospital as cured.

Opium exerts its influence by means of the nervous system, through which it gives energy to the capillary circulation, and affects to some extent every organ of the body. There can be no doubt that the circulation is stimulated by the remedy. The feet become warmer, and the resistance of the body to the depressing influence of cold is very appreciably enhanced. This primary effect of the drug as a stimulant of the nervous system is a quality the value of which must not be forgotten. The nervous trepidation called "stage fright"—the ill-defined sinking apprehension which is familiar to the orator and the player, and is not unknown to the student as he prepares to face his examiner—may be forestalled and disarmed by a small dose, five or six drops, of laudanum taken half an hour or so before his trial is to begin. Again, the nervous tremblings and depression which may be induced by a shock, and are apt to follow a surgical operation, are amenable to the same influence. The above dose, repeated, if necessary, several times at intervals of half an hour, is usually soon followed by tranquillity and sleep. The same treatment will go far to relieve the distress of dying persons. Under the influence of a few drops of the tincture the painful restlessness abates, and is succeeded by a period of restful calm, which may be maintained by judicious repetitions of the remedy until the close. Again, the profound mental depression which sometimes afflicts elderly people, making their lives a burden to themselves and to their relatives, may be alleviated by the same means. In this, as in the preceding cases, the drug acts as a stimulant, and something more; it quiets nervous irritability, while at the same time it gives a welcome spur to jaded nerves. There are few cases of nervous unrest in which opium given in these moderate, stimulating doses fails to relieve. Children who have been treated surgically for empyema and wear a drainage tube often suffer much uneasiness while the drainage process is going on. Under this treatment their restlessness is calmed, and they are enabled to bear the continued presence of the tube without showing any sign of discomfort. In all forms of illness in which the nervous system is irritable and perturbed the same treatment will be found of service.

When thus given with a view to stimulation the dose of the drug must be carefully limited, for too large a quantity would defeat our object; and it must be remembered that the susceptibility of the system to the remedy varies greatly in different cases—in adult life as well as in the child. It is wise, therefore, to begin with a very moderate dose, lest, unwittingly, we produce an effect the very opposite to that which we desire. The dose can be repeated at intervals of half an hour until the end we aim at is achieved. In the case of old people with thin-walled

* It has been cogently argued that Musa was the Iapyx of Virgil.

† Professor Howard Marsh thinks what is meant in this passage is a forcing forwards of the tibia in relation to the lower end of the femur, a condition he has seen only twice.

dilated hearts this precaution ought to be observed with especial care; and it is advisable to strengthen the stimulating action of the remedy by the addition of 5 grains or so of ammonium carbonate and 20 drops of sulphuric ether.

Again, in the case of young children the same care should be taken to fit the dose to the susceptibility of the patient. In early life the system is well known to be curiously sensitive to the narcotic influence of the drug. But this sensitiveness must not be taken to imply that in infancy the remedy is a hazardous one, and ought, therefore, to be avoided. It is merely a question of dose, for in suitable cases the drug can always be given with advantage if the proper dose be ascertained. It is safe to calculate the dose for infants at $\frac{1}{4}$ minim of laudanum for every three months of life, and this quantity can be repeated every six hours. At the same time it is desirable to warn the nurse never to wake up the child for his medicine or to give it if there be any sign of drowsiness. With these precautions there is no risk of producing undesirable consequences by the remedy.

By the use of opium in very moderate doses we incur less risk of upsetting the stomach of the patient and giving rise to nausea. In some persons, however, quite small quantities will excite vomiting. Should this be so, the evil effect may often be averted by combining each dose of the sedative with a small quantity of capsicum in the proportion of $\frac{1}{2}$ grain of the powder or 5 to 10 drops of the tincture.

When opium is used for its sedative effect larger doses are required. The presence of pain renders the patient less responsive to the influence of the drug, so that care must be taken to prescribe a sufficient quantity to attain the end we have in view. In such cases some uncertainty is often felt as to how frequently it is safe to repeat the remedy, and how soon it may be returned to if the first quantity has proved insufficient. Dr. W. Griffin, who wrote in the first half of the last century, asserted that the full effects of a sedative dose of laudanum become visible within the space of half an hour, so that, if at the end of that time the pain is still unrelieved, the dose may be given again and again without danger, provided this interval between successive repetitions is maintained.

In the case of elderly people who suffer from bronchial catarrh with copious expectoration, the incessant cough makes sleep almost impossible, and the patient seems likely to be worn out by the continued disturbance and want of rest. It is of the highest importance to put an end to the harassing cough and limit this excessive secretion, but the medical attendant often hesitates to prescribe an opiate, lest by doing so he hinder expectoration, and cause a dangerous retention of mucus in the tubes. Whether or not this result is likely to follow a dose of the sedative depends upon the exact condition of the patient. If his breathing be easy, his skin clear, and his cough quite loose, we may give opium with every prospect of bringing relief; but if we notice any lividity of skin, blueness of the lips, oppression of the chest, or other sign of deficient aëration of the blood, opium would only do harm, and must not be allowed. It may be accepted as a rule that in all cases of pulmonary catarrh, until the cough is quite loose and secretion free, opiates are inadmissible in any but the most moderate dose, and only then when combined with antimonial or ipecacuanha wine, and other remedies which tend to promote free secretion from the bronchial mucous membrane.

When given in sedative doses and pushed boldly, opium used to be regarded as a powerful agent in the treatment of fevers and inflammatory conditions, especially those of the abdominal serous membrane. In the old days of anti-phlogistic treatment it was the practice, in the first place, to reduce the violence of the complaint by repeated bleedings and the liberal use of mercurials, and then to administer opium in large and frequent doses either alone or in combination with tartarized antimony. The first part of this treatment has long and deservedly fallen into disuse. According to our modern notions, it is founded upon false conceptions of the nature of fevers and inflammations, and if it were ever of service in the treatment of these conditions, which one is strongly tempted to doubt has long since ceased to be regarded with anything but disfavour. But the treatment by opium in full doses stands upon a very different footing, and has much to

recommend it. In the case of acute peritonitis—especially that variety which results from perforation of the bowel and extravasation into the peritoneal cavity—surgery, although often of service, has not made us independent of other methods of treatment, or less ready to welcome any help which may reach us from the use of drugs. In the case of peritonitis from perforation it was recognized even in old days that in the collapsed state of the patient bleeding and the lowering methods of treatment were out of the question. The physician therefore proceeded at once to the use of opium, relying upon its reputed influence in reducing inflammation, and hoping that by its power of moderating peristaltic movement it might further the organization and adhesion of effused lymph, and seal up the rift in the bowel. He was encouraged in this treatment by noticing the remarkable tolerance for the drug displayed by patients of all ages when suffering from abdominal inflammations, however great might be the prostration induced by the illness. Dr. Stokes, in an interesting and instructive paper which appeared in the first number of the *Dublin Medical Journal*, instanced the case of a boy of 12 who, although exhausted and collapsed, took with great benefit and without showing any sign of narcotism 4 minims of "black drop" every two hours. This dose is equivalent to 20 drops of our laudanum. As a result of this treatment the improvement was so decided that the boy seemed in a fair way to recovery. Unfortunately at this juncture an aperient was incautiously ordered to relieve constipation, and the action of the dose was followed by a return of the worst symptoms, which this time the remedy was unable to relieve. In all such cases aperients should be carefully avoided however great may be the temptation to have recourse to them. Recovery is dependent upon complete quiescence of the alimentary canal, and rashly to stimulate the contraction of the bowel is only too likely to give a fatal impulse to the disease, and render useless all our previous treatment.

In another case, to a man of middle age, Dr. Stokes gave 1 grain of opium every hour. The patient took 105 grains of the remedy without any narcotic effect and recovered completely. Dr. Stokes maintained that in cases in which the drug acted favourably no toxic consequences arose from its use, and looked upon any such untoward effect as a sign that the remedy had no beneficial influence and had better be avoided. The statements and observations of this distinguished physician have a more than historical interest even in the present day, when the drug treatment of perforative peritonitis has been abandoned in favour of laparotomy and free drainage of the abdominal cavity. In very many cases the change is no doubt greatly to the benefit of the patient, for no one can deny that surgical treatment has been the means of saving many lives which would otherwise have been lost. But all cases of perforative peritonitis are not suitable for operation, and even where this method can be adopted the mortality is high. I submit, therefore, that in all cases where surgical interference is inadvisable, and even in cases in which free drainage has been adopted, the opium treatment might usefully be resorted to, especially as so little susceptibility is shown to the narcotic action of the remedy. I have long been familiar with this tolerance for opium shown in cases of peritonitis even by the youngest infants, and am of opinion that advantage should be taken of it in all cases, for it must be pushed boldly if we are to obtain its full value from the use of the drug.

So far from opium being a remedy inadmissible for infants on account of the susceptibility of the system at this early age to the narcotic influence of the remedy, its value in the treatment of their complaints can hardly be exaggerated. For the relief of spasm its usefulness cannot be questioned. In cases of convulsions in children and also in spasmodic conditions of the larynx, the nervous seizures often yield at once to a small hypodermic injection of morphine. For a child of 12 months old $\frac{1}{10}$ grain of morphine may be used combined with $\frac{1}{10}$ grain of atropine, and the injection may be repeated in half an hour if by that time the spasm has not completely relaxed. The addition of atropine modifies the narcotic action of morphine without impairing its influence as an antispasmodic. Still, where the air passages alone are affected, it is seldom necessary to resort to morphine in the treatment.

of spasm in young people, for in grindelia we have an antispasmodic which is superior to all other varieties of sedative in its influence over nervous contraction in those parts. Over general convulsions and spasm of the muscular system generally grindelia has little or no restraining influence, but in laryngismus and stridulous laryngitis its effect is prompt and decided, and in many cases of asthma we find a ready response to the sedative influence of the drug. The only objection to this treatment is the unpleasant taste of the remedy, but this may be covered to a considerable extent by a liberal flavouring with syrup of orange. The most convenient preparation is the liquid extract in doses of 10, 15, or 20 drops every three or four hours.

Opium is of great value in all cases of looseness of the bowels. Whenever it is desired to put a speedy stop to the purging a small proportion of laudanum should be included in the mixture, with the object of delaying peristaltic movement of the muscular coat of the intestine. In cases of colitis where the tenesmus is distressing and the stools contain much blood and mucus, the use of opium by the mouth may be supplemented with advantage by small rectal injections of tincture of opium (for a child 2 to 5 minims) with a few grains of powdered ipecacuanha in half an ounce of thin boiled starch. This injection may be repeated after each action of the bowels.

Again, in cases of cystitis combined with painful spasm of the neck of the bladder, opium is a useful local remedy. For an adult 3 to 5 grains may be combined with 10 grains of extract of hyoscyamus in a suppository to be used twice a day. The internal administration of the henbane alone is, however, a very satisfactory remedy for this complaint, and a dose of 3 grains given by the mouth every four hours rarely fails to relieve all the painful symptoms in the course of a day or two.

Opium is seldom given in these days to secure sleep unless pain be complained of, and not often then. There is much fashion in medical practice, and it is the custom at present to prescribe chloral, sulphonal, veronal, the bromides, and other modern but not necessarily harmless substitutes for the old-fashioned remedy now so unreasonably misprised. These drugs, however, have dangers of their own, and cannot be continued for long together without a more considerable risk of harm to the patient than is to be feared from a course of the older and time-honoured sedative. When given as a hypnotic, and not with the object of relieving pain, opium should be taken two or three hours before bedtime, as it requires this interval to produce its sedative effect, and the dose should always be repeated for several nights in succession. In the delirium and sleeplessness of fevers the drug has a decidedly beneficial and calming influence, and in former times was always regarded as a remedy of the first importance, which could be given not only with safety but with singular advantage, provided the tongue and skin were moist and the pupils not contracted.

It is in cases in which the blood is imperfectly oxygenized—as happens whenever the patient is threatened with coma or apnoea—that opium and its constituents are likely to do harm; and this warning may be taken to apply to all other varieties of sedative. As Sir Thomas Watson used to insist, duskiness of the face or any, even the slightest, tinge of purple in the colouring of the lips should warn us that opium is a dangerous remedy and had better be avoided. On this account the use of opium in cases of acute pneumonia, although advocated by some high authorities, is, I cannot but think, not always unattended with risk. In cases of Bright's disease the remedy is not necessarily to be forbidden. On the contrary, it may be employed with advantage in uraemic convulsions or even in cases of uraemic dyspnoea, for the respiratory distress arises usually from cardiovascular spasm affecting especially the branches of the pulmonary artery, and great relief is often found to follow the action of the sedative. If, however, the kidneys are unsound, the dose of the remedy should be moderate, for its action is more energetic in such cases than where there is nothing to hinder the free working of those organs. This rule applies particularly to cases in which the urine is scanty and high coloured. Should this symptom be noted, if the distress be not too urgent to admit of delay, it is advisable to increase the freedom of secretion by watery purgatives and alkaline diuretics, and when opium

is prescribed to combine moderate quantities of the sedative with the same alkalis in liberal doses.

A fear is often expressed of establishing an "opium habit" if this form of sedative be used for long together; and to this fear may possibly be ascribed the neglect into which this invaluable drug is beginning to fall. But if proper care be taken the danger is surely a fanciful one. When the remedy ceases to be required it should be withdrawn as quickly as possible; and with the exercise of care there is little difficulty about leaving it off, even if the drug has been continued for a period of months. The assumed difficulty arises from the extreme irritability of the nervous system which follows the sudden omission of the usual sedative dose. This is sometimes distressing in the extreme, and many a victim to the drug, although profoundly anxious to free himself from its thralldom, has shrunk from provoking the suffering which he well knows the struggle for liberty will entail. This suffering may be avoided if the dose be gradually reduced until the quantity taken is very small. If then it be withheld altogether, the nervous unrest which ensues is moderate enough to be readily controllable by a few doses of tincture of gelsemium. I have in my mind the case of a professional man who had suffered from a severe attack of subacute sciatica. For many weeks the patient had been treated with hypodermic injections of morphine—using one-sixth of a grain after breakfast, the same quantity after a mid-day lunch, and one-third of a grain at bedtime. Only by such means could the painful spasms of the complaint be controlled sufficiently to enable the patient to pursue his professional duties. At length the attack came to an end. The dose of morphine was then gradually reduced day by day until it was brought down to one-twelfth of a grain at bedtime. It was then stopped altogether and the nervous unrest which followed, although very definite and harassing, yielded at once to a dose of twenty minims of the gelsemium tincture taken at bedtime. This was required on only two or three nights; the nerves then recovered their tone completely.

Young children who have been taking opium for some days for the relief of pain or spasm are as quick as adults to feel acutely the absence of the customary sedative. They show it, however, not by signs of irritability, but by symptoms of threatened collapse. The child lies back with sunken, half-closed eyes, a pallid face and clammy skin, and by his ghastly appearance may excite great alarm. The patient, however, is in no real danger, and only requires food and stimulant to throw off all signs of depression. The best filip for this condition is a teacup of hot milk containing thirty to sixty drops of brandy.

In the case of morphinomaniacs who have undertaken to cure themselves of the habit and profess that they have done so, the patient's word, unfortunately, is not always to be trusted. If in such a case we are led to suspect that the cure is not as complete as it is asserted to be, Dr. Edward Smith used to advise an examination of the urine for the presence of morphine. He maintained that at the end of eight days from the beginning of abstinence the drug should have passed completely out of the system. If, then, its presence in the water could be detected after that time had elapsed, he took it as a certain sign that the use of the drug was being secretly continued.

WE have received from its author, Mr. Kingsley Fairbridge, a reprint of a speech at the Colonial Club at Oxford on October 19th, which led to the foundation forthwith of the Society for the Furtherance of Child Emigration to the Colonies. The resolution in favour of the formation of such society seems to have been signed by all the members present, including a majority of all Rhodes scholars. The scheme is to raise a sum of £500,000 for the purpose of establishing in Newfoundland a series of farm schools, officered by well-educated men and women. To these schools it is proposed to send children from Great Britain and Ireland who are no older than from 8 to 10 years and still malleable, and to keep them on the farms for about twelve years, submitting them meanwhile to a definite system of education. In anticipation of the foundation of the society, the Prime Minister of Newfoundland is understood to have undertaken that his Government would make a free grant of 50,000 acres of the best virgin land of the colony, together with certain annual grants. Donations may be sent to Mr. Kingsley Fairbridge, Exeter College, Oxford.