ON SANTONINE AS A CAUSE OF URTICARIA.

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It not unfrequently happens that the medical man meets with unforeseen and disagreeable effects from remedies that he is in the habit of prescribing, owing to idiosyncrasies in his patients with which it was impossible to be previously acquainted. It would not be a work of supererogation to make a collection of instances in which familiar agents have produced peculiar and unexpected results, because they might serve not only as a warning, but also assist in elucidating with greater accuracy the *modus operandi* of the drugs which we use. These remarks apply to medicines upon which we daily rely, such as preparations of iron, quinine, opiates, the solanaceæ. But there are others that are ordered more sparingly; and, when their use is followed by unusual effects, our experience does not enable us to refer peculiar occurrences to analogous precedents. Such is the case with santonine, an agent long regarded as a good vermifuge, especially for ascariæ; but, as far as I can gather, not by any means so frequently employed as other agents belonging to the class of anthelmintics. My previous experience of this preparation has not taught me that it is in any way deleterious; nor, after numerous inquiries among my friends, do I find that they have met with unpleasant results from its use. Books speak of it as exercising an occasionally injurious irritant effect. My friend Dr. Garrod has referred me to a case given in the *Annales de Thérapeutique* for 1852, in which a child of four years old, after taking three grains of santonine, experienced severe abdominal pains, vomiting, purging, great prostration, cold sweats, spasms of the extremities, and dilated pupils; but ultimately recovered. Nothing of the kind has been observed by numerous friends whose opportunities of noting the effects of santonine have perhaps been larger than mine: I therefore think that the following account may not be without interest.

I recently prescribed for a little patient of four years old three grains of santonine with five of sugar, which were given to her with her tea; and the nurse was of opinion that she could not have taken the entire dose, as the cup was not emptied. Very soon afterwards, vomiting, accompanied by a severe rash, described as urticaria, and covering the greater part of the body, set in. I saw her soon afterwards, and found her somewhat prostrated by the attack, but otherwise presenting no unusual symptoms. As, on inquiry, it appeared that some error in diet had been committed, I was not disposed to attribute the effect to the santonine, and therefore ordered the dose to be repeated on the following day. Almost directly after taking the medicine (and this time, again, it is probable that only a portion was taken), a white wheal appeared on the nose, surrounded by an erythematous blush; and a similar eruption rapidly covered the body. Violent vomiting set in, but unaccompanied by abdominal or other pain, or by purging; and the entire face became swollen. This swelling attained such a height, that when I reached the house, within a quarter of an hour of the commencement of the symptoms, the child's face was disfigured to such an extent as to make her almost unrecognisable. The lips, from which some viscid saliva was still issuing, were swollen to an enormous size, glistening from the oedematous distension. The nose—at other times a delicate feature in a sweet little face—was enlarged to the size of a negro's; and the eyes were almost closed by the same condition of the lids. The intellect was unimpaired; and there were no spasmodic or other symptoms referable to the cerebro-spinal centres. I at once placed the child in a warm bath, which soothed her; and within an hour the oedema and the rash had for the most part disappeared. No further bad result followed; but, on the contrary, although no vermifuge effect was noticed, the child's appetite and general condition were improved on the following day, after a night of sound sleep.

It naturally suggested itself that the powder had not been properly made up; and that some ingredient, for or besides those ordered, might have been introduced. But an analysis, kindly made for me by Mr. Squire, satisfied me that there was no ground for this assumption, and that the effect could be attributed solely to the santonine. The analogy presented by the symptoms occasionally resulting from the use of copaiba, the consumption of honey, of shrimps, of mussels, of strawberries, assist us but little in the explanation of the occurrence; but it seems clear that the effect resulted mainly from a peculiar irritation applied to the pneumogastric and sympathetic nerves. The vaso-motor nerves were evidently largely implicated; but I do not remember ever seeing an instance in which so large an effusion of serum took place with the same rapidity, or disappeared as quickly. I may mention that this case has taught me that santonine is by no means as tasteless as

all the authorities within my reach tell me that it is. On the contrary, it possesses a well marked bitter flavour, which appears to be enhanced by the addition of sugar.

MUCOUS DISEASE.*

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THERE is reason to infer that mucus in an abnormal condition, or in an excessive quantity, may be produced on most, if not all, mucous surfaces. Andral, in his *Pathological Anatomy*, makes the remark that, in opening bodies, one is sometimes struck with the prodigious quantity of mucus on the internal surface of the stomach or intestines. He says, usually the mucous membrane is bright red, or it may be pale, without the least trace of injection; the increase of a secretion not necessarily inferring the formation of a sanguineous congestion in the secreting organ. M. Billard and M. Lélut have found membranes in which no trace of organisation could be discovered, in the mouth, pharynx, œsophagus, and stomach. I am at the present time attending a woman who, by a peculiar effort, which does not amount to a cough, brings up quantities of casts. Microscopically, they have the precise appearance of some of the specimens of casts from the colon. The total absence of fibrillated tissue enables me, of course, to distinguish them from the expectoration of a plastic bronchitis.

The structure and composition of these formations has been principally studied by Drs. Wilks and Clark, in England, and recently by Dr. Perroud of Lyons. Dr. Wilks and Dr. Andrew Clark made a most elaborate report on the microscopic appearances presented by these membranous shreds and tubes to the Pathological Society in 1857; Dr. Andrew Clark adding a supplementary note, in which he states that he has chemically and microscopically examined these pathological productions, and also preserved numerous specimens of them.

Dr. Perroud, in a contribution to the *Journal de Médecine de Lyons* for September 1864, gives the result of a carefully conducted chemical and microscopical investigation of these mucous concretions.

From the above-named sources, we shall be justified in stating that the characteristic discharge from the bowel may be divided into three stages:—

1. Masses of more or less inspissated mucus having the appearance of colloma or jelly. They are imperfectly membranous, and contain only the merest trace of albumen.

2. Tubular casts of the gut, which are veritable cylindrical sheaths, and also membranous shreds and flakes of various forms, which can be shown to be nothing more than fragments of the tubes in various stages of development. They have been compared to macaroni, vermicelli, and, according to Trousseau and others, from their slight resemblance to the *tœnia solium*, they have been mistaken for that worm. They sometimes present an irregular cribriform appearance, but by replacing the various branches you restore a perfect surface, which originally was evidently constructed in longitudinal stripes. M. Cruveilhier has seen them branched like the concretions formed in the bronchial tubes. These forms are membranous, and contain an abundance of albumen, but no fibrin.

3. Membranous shreds of lymph, mixed with blood and pus. This form contains both albumen and fibrin in abundance, the latter in a fibrillated form.

Dr. Andrew Clark observes that, differing in most respects, these three varieties of morbid product agree in this, that they all contain similar cell-forms; yet it is to be noticed that in the first variety there is no evidence of transudation or exudation; in the second, no evidence of a true exudation; and that in the third, in which the existence of a true inflammatory exudation is undeniable, the only additional structural element present is fibre. By the aid of a microscope, it appears that these membranes are formed in different layers; and, when they consist of more than one, we often find interposed between the laminæ particles of undigested food. The tissue of these membranes consists of an elastic, transparent, and structureless matrix, in which is embedded great numbers of spherical and cylindrical cells, the *débris* of these cells, free nuclei, crystals of the ammonia-phosphate of magnesia, and particles of incompletely digested food.

Dr. Perroud, from his chemical and microscopic study of these membraniform concretions, arrived at the conclusion that, in addition to a small quantity of albumen, they are formed of the same substance as that which enters into the composition of the epidermis. These membranous shreds and tubes are voided in lengths varying from a few inches

* Continued from page 144 of last number.

to upwards of four feet. Potain has measured them from thirty to forty *centimètres*. The thickness, of course, varies according to the number of layers entering into their composition. My estimate of a single layer is from one-twentieth to one-sixteenth of an inch. The tubes from the colon vary from an inch to an inch and a half in diameter. The quantity passed at times is most astonishing. Powell records having observed them in sufficient quantity to have lined the whole intestinal canal. When recently collected, they are often stained a yellowish brown; but after a little washing in water, they become almost perfectly white, and have rather the appearance presented by wet tightly compressed cotton-wool.

In *post mortem* examinations it is found that the adherence of these membranes to the mucous surface of the intestine is variable. Sometimes they are raised with facility by the percussion of a stream of water (Gendrin); at other times they adhere so firmly to the mucous membrane that they cannot be detached by strongly scraping with a scalpel; portions of them may, however, at the same time be found in the fecal matter (M. Billard).

With regard to the etiology of this disease, I fear I must place it amongst that vast class of disorders which it is rather our habit to group than to define, resting satisfied with some such general term as neuropathic, amounting, one cannot help feeling, to an admission of almost absolute ignorance. The easiest explanation would be to recognise some flaw in the mysterious cycle of nervous influences which governs all secretions. I will, however, briefly state the causes which have been assigned by those who have taken the disease into their consideration.

Cruveilhier ranked it as a variety of colonic chronic enteritis. Perroud considers it a nervous disease, and affirms that it is frequently met with in subjects affected with enteralgia. Powell thought it fair to suggest that mucous products may be poured out from the exhalants, rather than from the mucous glands of the intestine. Trousseau attributed the disease to inflammatory causes. Grisolle classifies it as one of a species of neuralgia. Habershon has observed mucus passed in elongated flakes, and casts of the intestine, following severe diseases of the intestines of a dysenteric character; he also states that this disease is sometimes associated with a state of chronic congestion of the liver. The same author goes on to affirm that it is often perpetuated by the presence of hæmorrhoids, polypoid growths, or ovarian disease. In young women, painful menstruation, and in men prostatic disease, are held by him as efficient causes.

Dr. Henry Bennet, in speaking of chronic metritis, says that it is accompanied in a great number of cases by congestion, or even subacute inflammation of the mucous membrane lining the rectum or colon, as evidenced by the secretion of large quantities of mucus, and of pseudo-membranous sherds, and casts that are passed with the "fæces." Dr. Byford also considers it in the light of a symptom of uterine disease rather than an independent affection.

Dr. Golding Bird considers the colonic follicles to be the source of these membranous substances. Andral also says that a concrete matter secreted by the follicles may come out, and spread in a more or less thick layer over the gastro-intestinal mucous membrane; but that may also occur, he further states, without the assistance of these follicles, merely by means of an alteration of what he calls the perspiratory action that resides in every living particle, but which we must take simply to mean otherwise than by follicular secretion.

Grantham attributed all the cases which he had observed to the administration of mercury conjoined with the too frequent use of aperient medicine, and he looked upon struma as a predisposing cause.

Dr. Arthur Farre believes the formation to be of a confervoid type—an *oscillatoria* in fact, the result of spores swallowed by the patient.

Sir James Simpson, as already stated, pointed out that these ejections of pellicles of thickened mucus or of actual coagulable lymph, presenting the appearance of shapeless masses, or of tubular false membranes, are the products of a papular eruption of the lower part of the small intestines and the colon, the direct evidence of which may generally be obtained by carefully examining the state of the mucous membrane that is within sight.

After giving you the opinions of such men as I have just quoted, we will endeavour to read this disease under the guidance of modern research; and I think that the conclusions at which we arrive may be formulated as follows.

The proximate cause of the symptoms referable to this disease is the hypersecretion and accumulation of mucus on the free surfaces of mucous membranes; such accumulations sheathe and prevent the healthy performance of the functions natural to the part, thus inducing immediate and remote results, the effects of such suppressed functions.

This hypersecretion indicates a want of balance between nerve-force and germinal matter. The nerve-force is perverted by irritation. The

exciting causes are numerous. It is a character of mucous secretion, under the influences of irritation, for its cell-elements to increase and its viscosity to diminish. And in the disease in question, the prolific cell-formations become entangled in the albuminous fluid in which they are found, and present the membranous structures before referred to.

There is no particular age which predisposes to this disease; nevertheless, middle-aged persons, children, and old people, may be held as liable to this disease in the order in which they are enumerated. A damp climate has a peculiar influence in increasing the severity of the symptoms in this complaint. It occurs far more frequently in females than in men. As another predisposing cause, we may consider the enervation produced by the habits of modern society to be an efficient one—I allude more particularly to the want of exercise, the absence of healthy mental occupation, and the substitution of thoughts which are for ever recurring to the sensations, and symptoms of self—the habit, as the French say, of "listening to oneself live". Constipation, and the retention of excreta within the system, while it is a consequence, is also an exciting cause of the disease.

This disease is generally observed in persons of a cold temperament and relaxed habit of body, characterised by softness and want of elasticity of fibre, a feeble circulation, cold extremities, and a peculiar whitish-yellow paleness of skin; and in those who show manifest great languor and apathy in their feelings, and a want of decision and energy in their moral and intellectual character, and who yet possess a highly excitable condition of the nervous centres. Women who suffer during menstrual periods, and those who are victims to membranous dysmenorrhœa, are peculiarly prone to it. It is often met with in women who are either childless, or have ceased early in their married life to bear children. The blood of such patients is deficient in fibrin and red discs; the skin acts in a most imperfect manner. The most common exciting cause of the malady is the irritation of the intestinal canal, produced by crude and indigestible articles of diet.

The cases which I have had an opportunity of observing where a distinct peripheral irritation could be discovered—an inflamed pile, for instance—have always subsided when the cause of the irritation has been removed. Neither do these cases depend so much on temperament as those in which no exciting cause can be distinguished. In regard to this latter class of cases, when we bear in mind that a large proportion of those who pass these casts are subject to some such indication of mental disquietude, as we find indicated by hysteria, chorea, hypochondriasis, and the like, may we not infer that the same initial lesion, whatever that may be, which induces the disease of the nervous system, may also induce the one in question? Just as, in fact, Claude Bernard has shown, not only that secretions, such as saliva and tears, can be augmented in quantity by reflex action, but further, that the chemical composition of a secretion can be modified by the same means. I have had on a single occasion an opportunity of examining and showing to more than one of my colleagues, by means of a small vaginal speculum, the interior of the rectum of a woman who was suffering from retroverted uterus and the passage of these vermiform-shaped substances. We could plainly see numerous isolated spots occupied by the mucus.

The invasion and early progress of this disease is most insidious. Although each case is characterised by symptoms peculiar to itself, there are, however, general symptoms which, combining in different numbers and degrees of severity, make up the individual cases. For instance, the patient's appearance is peculiar; for, although there is no amount of emaciation, there is a want of tone. The skin is either dull and sodden, or swarthy looking, or else it is of an artificial waxy clearness. It is often clammy and greasy, and acts but imperfectly. Eruptions of various descriptions are far from uncommon, and would appear at times to be vicarious of the internal mucous phenomena. The lips and gums are generally pale; the tongue is moist, pale, and flabby, often swollen, and indented by the teeth, sometimes red and irritable. The mucous coating of the tongue often peels off in patches, leaving the surface underneath raw and tender. Small ulcers are frequently met with on the tongue, and also on the insides of the lips, cheeks, and gums, and even on the fauces, pharynx, and posterior nares; when these latter localities are implicated in this manner, violent headaches are always experienced. The pulse is weaker and slower than natural.

The patient's subjective complaints are legion. Every ailment a hydochondriac could desire would be included in the catalogue, were I to give it. Digestion is slow and difficult, accompanied by a depressed and anxious mind, and often palpitation of the heart. The muscular system is soon fatigued. The nervous powers are speedily exhausted; the memory is bad; there is no capacity whatever for exertion. But much graver symptoms than these not unfrequently point to the nervous system as the one most seriously at fault. I allude to symptoms of chorea, melancholia, and partial paralysis. The action of the bowels

is rarely normal; they are almost always constipated, though diarrhoea does sometimes alternate with constipation.

With regard to the formation, exfoliation, and discharge of these mucous structures, it would appear that in each case they observe a regular periodicity, that the exfoliation is critical, and is always followed by an immediate amelioration of the symptom which intensify up to that event. The patient is usually conscious of the formation of each fresh crop, and describes it as a gathering in some part of the abdomen, generally the lower part of either lumbar region, more frequently the left. At other times, the feeling is only one of heat and rawness. The exfoliation is indicated by a sudden attack of pain in either flank, or towards the epigastric region, spasmodic in character, and often lasting a couple of days. During this time the tongue becomes coated, the pulse hard and quickened, the temperature raised, and the urine dark coloured, often containing albumen. The skin at this time frequently becomes jaundiced; but this, I have observed, is never the case when the pain is referable to the left side. In the course of a day or two after these attacks, the mucus comes away, either in a motion or by itself; and for a variable time the patient is free from the more distressing of the symptoms.

I have, of necessity, but very briefly sketched the symptoms; to give the list in full would far exceed of itself the time you place at my disposal.

There are few diseases less amenable to treatment than the one under consideration; the most varied methods have been tried in some cases without being able to check the formations. Dr. Andrew Clark considers that the first stage is generally curable; that the second is occasionally curable; and that the third resists all treatment. I certainly feel inclined to qualify one of these statements by saying that, as far as my experience goes, the first stage is always to be remedied.

The principal points in the treatment are as follows:—

1. Discover, and counteract any cause, either in direct contact, or the immediate vicinity of the secreting surface, which can be traced as a source of irritation, such as accumulations of scybala, or a retroflexed uterus.

2. Reinstantiate the strength, and allay the nervous irritability.

3. Remove the accumulated mucus.

4. Prevent its re-accumulation.

Whatever plan is adopted in support of these indications, it is, above all things, necessary to insist upon a sufficient time for the trial of each measure before another is substituted. The progress towards recovery is always slow, and to the sufferer almost imperceptible.

With respect to the sources of irritation, excepting constipation, which is a consequence as well as a cause of the disease, they require treating according to their respective requirements, and in the departments to which they belong. The constipation is one of the most troublesome features with which we have to deal. Whatever relieves for the time but increases trouble for the future; bearing this in mind, the wisest plan is to trust more to nature than to drugs, leaving the bowels to recover the tone which is usually found to have been destroyed by a long course of aperient medicine. The physician should ascertain from time to time that no unusual accumulations take place in the colon; and when such do occur, I employ an enema of water reduced to a degree of cold tolerated by the patient. Beyond this I sometimes recommend the slow mastication after the mid-day meal of a couple of grains of rhubarb-root.

The purgatives which are particularly hurtful, and to be avoided in this case, are mercury, aloes, senna, all drastic purgatives, and articles of diet of an aperient nature. I have repeatedly had occasion to note that kousso administered to certain individuals is certain to be followed in the course of some days by the discharge of these mucous substances. Cruveilhier makes a similar observation respecting the bark of the pomegranate.

To reinstantiate the strength and to allay the nervous irritability, remedies have to be selected according to the peculiarities of the individual cases. A prescription which I am frequently in the habit of giving with excellent results is the *mistura ferri composita*, with increasing doses of the bromide of potassium. This mixture I often continue for months before deriving the desired result.

It is advisable, in obstinate cases, to try alkaline enemata with the object of removing the accumulated mucus, and then to endeavour to prevent its reformation by injections of a solution of nitrate of silver, as advised by Grantham, beginning with one-sixth of a grain to an ounce of water.

Counterirritation is of essential service, especially the daily soaping of the entire surface, then washing off with chilled water, and finally prolonged friction with a coarse towel. The clothing must be regulated to ensure warmth conjoined with freedom. Exercise, short of fatigue, should be taken daily. The diet is perhaps the point of all others where the greatest mistake is made. An idea, strongly felt by the patient,

that a great amount of strengthening food is required, leads to the further exhaustion of an already feeble digestion. Impress upon the patients the fact that it is the quantity absorbed which means strength, and not the bulk swallowed, and it is possible to check the error they are so anxious to commit. Certain articles of diet should be strictly interdicted, the chief of which are the following. Liquid food, excepting milk, aggravates, in the majority of cases, every symptom; sugar is invariably hurtful; tea, coffee, and alcohol—Burgundy being the only wine from which I have ever derived benefit—vegetables, and fruit also prove injurious.

In conclusion, let the treatment be as much of a negative character as circumstances will permit. Trust to time and surroundings, and, above all, to nature, the best of curative agents.

Such, gentlemen, is a sketch of a disease most serious in its import to the patient, and of far from infrequent occurrence. True, the treatment is still in its tentative stage; but we are clearing the way for sounder views on the subject by accurately laying down the causes and symptoms of a malady, which one cannot doubt is constantly mistaken for one of the hydra forms of dyspepsia, so that, by the erroneous treatment resulting from this mistake, the first, or curative stage of the disease, is allowed to pass into the later and more lethal forms.

REPORTS

OF

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS OF GREAT BRITAIN.

GUY'S HOSPITAL.

SHORT NOTE ON CASES UNDER THE CARE OF DR. WILKS.

AT present there are several cases of much interest in Dr. Wilks's wards at Guy's Hospital, which we were enabled hurriedly to glance at with him.

In the male wards is an interesting case of aneurism of the thoracic aorta. The patient had been previously treated at one of the hospitals as an out-patient for some slight ailment; but there was now discovered a pulsating tumour below the angle of the scapula. The pulsation, although sufficiently evident on close inspection, was demonstrated more clearly by means of what was called by Mr. Wilkinson King,* who first drew attention to the subject, the sphygmometer. It simply consists of a stiff hair, the end of which is fixed on to the tumour by a piece of wax. The pulse is thus indicated by the movements of the extremity of the hair, which can be made to produce a delicate tracing on a piece of paper. The sphygmograph is nothing more than a recent elaboration of this ingenious discovery.

In the same ward is a case of paralysis of the right upper extremity, and of it alone. The patient, a strong robust countryman, found his arm paralysed, both as to motion and sensation, on waking up one morning. There was no history giving the least clue to its nature, and no local cause, such as a tumour pressing on the nerve, discovered; and the paralysis was now daily diminishing. Dr. Wilks thought it not improbable that it might be explained by the man having lain on his arm during the night.

In the adjoining bed was a young man with obstinate epilepsy. He had a seton in his neck—a mode of treatment which Dr. Wilks had found and believed to be the most effective in such cases.

In this ward was a patient with albuminuria and considerable dropsy, in which case *copaiba* had been tried as a diuretic without much effect. In a patient, however, in the female ward, suffering from cardiac dropsy without albuminuria, this remedy had answered admirably. It is in the cases where the kidneys are unaffected, that *copaiba* generally, but not always, answers best.

In the male ward we saw a man with a distinctly malignant aspect, who had been sent to the hospital suffering from dysentery. Such cases Dr. Wilks had usually found to be, on examination, cases of cancer of the rectum, as it proved to be in this patient.

Sitting on a chair in the ward, was a man who was the subject of epileptic attacks. Hemiplegia had also come on—a combination which, Dr. Wilks believed, always pointed to organic disease of the brain.

* On the Safety Valve Function in the Right Ventricle of the Heart.—*Guy's Hospital Reports*, vol. ii.