CLINICAL LECTURE ON RECTAL EXAMINATIONS.

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GENTLEMEN,—Within the past month we have had a series of cases illustrating features of surgical interest in connection with the rectum. I shall first direct your attention to some anatomical facts, and then offer clinical remarks on the treatment of fistula *in recto*, fissured anus, pendulous skin-tags around the anus, piles, and lastly, on the introduction of the surgeon's hand and arm *per rectum* for left renal examination. Hilton, in his classic work, *On Rest and Pain*, draws attention to a white line of demarcation between the external and internal sphincters; the former I have been in the habit of describing as the sphincter ani, the latter, as the sphincter recti. They both act as janitors, but the anal sphincter specially guards against intrusion from without, whilst the rectal sphincter, on receiving the order from his superior officer, carries out the final expulsion of fæces. I apprehend that nature has erected Houston's folds on very much the same principle that barriers are erected in public places, viz., to prevent overcrowding, and to give supportive protection to and from "the residual element". The common iliac arteries may be felt pulsating right and left of the rectal column; I have lately utilised this anatomical fact for the restraint of hæmorrhage during amputation at the hip joint; the position of the internal iliac arteries also with regard to the pelvic wall suggests that the mechanical pressure of the foetal head and body during parturition may assist in checking flooding in cases of placenta prævia. The healthy anus is an even, tight, depressed ring of tissue, dilating easily to a diameter of one inch and a quarter, sensitively resenting intrusion from without both of solids and liquid, whereas the rectum may be distended to a diameter of four inches, and is tolerant of manipulation. Here you may examine the simple yet very effective speculum for the rectum that I am in the habit of using; it is preferable

to Hilton's window speculum, because it is larger, cheaper, and exhibits the whole of the rectal walls at a glance; the instrument itself occupying the minimum of space.

Before speaking on the treatment of some diseases of the rectum and anus, let me remind you that the public recognises specialities in our profession; your intelligent Britisher swallows advertised sherry, homœopathic surgeons, throat, skin, and anus-doctors; the last bracket is infelicitously equivocal, for one meaning of "anus" is *an old woman*. General hospital surgeons do not receive the same amount of patronage that specialists do; patients will ask highly qualified men after specialists. Sir Thomas Watson has been asked to recommend a good general physician. A stockbroker lately asked me, "Who is a good man for the gravel?" I replied, Scotchmanlike, "Who is a good broker for an investment in Russian bonds?" I trust that the time is not far distant when the Local Government Board shall recognise substantially the grand service done by general hospital staffs to the community, instead of perpetuating the present competition between the great unpaid general hospital men and the overpaid specialists. I have so far digressed to direct your ambition towards becoming "good

all-round surgeons", and in order that you may study and practise surgery as an integral and not a fractional quantity.

Let me now draw attention to the common complaint called fistula *in recto*. In your text-books, and even in Bryant's *Surgery*, this complaint is erroneously called fistula *in ano*; the anus is but a linear entity, length without breadth, the mouth of the sewer. If two apertures exist, one is in the skin around the anus, the other in the lower part of the rectum. In all operations on the rectum, attend to the following hints: 1. That the bladder be empty; 2. That the banks of the sewage-canal be well washed previously with tepid soap and water; 3. That your own hand be oiled, the nails cut short, and the semilunar folds around the nails filled with soapy smears; 4. That suitable lavatory accommodation (with disinfectants) be ready for your own ablution. Divide the fistulous track accurately; retraction of the sphincters results; the floor of the sinus is free from friction, and granulations adhere from the floor towards the circumference of the anus. Administer opium *per rectum* or by the mouth as occasion seems fit, so as to quiet the intestinal tract. Nitrous oxide gas may well be used for these short operations, because sickness is a very aggravating occurrence as a sequence. In fissured anus, where exquisite sensibility occurs, and the patient carries the aspect that Professor Miller indicated as *mens conscia recti*, divide the nervous filaments in the sulcus, as explained by Hilton.

In considering the treatment of hæmorrhoids, bear in mind this standard rule, that whatever you remove as *bonâ fide* integument may safely be done by a curved pair of scissors; whatever is removed as *bonâ fide* mucous membrane must be done by clamp and cautery, or by ligature. In the out-patient department, I constantly cut off cutaneous tags around the anus with scissors, and treated the owners of them as out-patients; but never did one venture so to handle hæmorrhoids. Patients with piles require careful rest and attention prior to operating. Mr. Henry Smith has introduced a pair of forceps for holding these slippery customers, and then burns them off; my own experience inclines me to hold that the whole curative credit is due to the cautery. At this hospital we use a much stronger clamp than Smith's, and more after the St. George's Hospital pattern, because the grip is much firmer and cannot slip. (The instrument is on the operating-table.) The cautery I now use is this very ingenious and practical platinum cautery invented by Dr. Paquelin; after heating the platinum-tube over a spirit-lamp, the vapour of benzoline driven over this heated surface maintains its temperature as a cauterising agent. The late Mr. Bruce devised an arrangement for utilising common gas for cautery purposes, but benzoline is more portable than gas. No modern invention has succeeded so well in neutralising the apparent brutality of the hot iron as this of M. le Docteur Paquelin. These rectal wounds must all be treated by consummate cleanliness, and require no other dressing. You will find the steam-spray very grateful, and a soft hog's bristle brush an useful adjunct.

I have yet time to bring before your notice a case of renal phthisis, in which I introduced my right hand and forearm *per rectum*, so as to examine the left kidney for suspected calculus. T. B., aged 35, a painter, was admitted into Mark ward, on January 17th, 1877. Mr. Peacock of Lincoln (under whose care T. B. was originally), states that the man had been treated for lumbago, and subsequently required baths at frequent intervals. His wife, to whom he had always been reticent, determined to know why he required baths (apparently an unusual demand on the part of the British workman), and she discovered that his "purse" and left testicle were swollen. In 1876, hæmaturia, especially at night, occurred off and on with symptoms of cystitis. Mr. Peacock treated him with the bicarbonate of potash and henbane, perchloride of iron, and triticum repens. On admission, the patient stated that he was supposed to be suffering from stone, either in the kidney or bladder. In 1867, he fell eighty feet, while painting the roof of St. Andrew's Church, Derby. In October 1874, after exposure to cold, he complained of pain in his left loin; he had a fall in his shop at this time, and so frequent were these falls in his career that I nicknamed him "Tumbling Tom". In 1876, he suffered from hypogastric pain, especially on passing urine, with an excruciatingly crushing pain in his left testicle. The catheter was passed for him now on fourteen different occasions; blood in his urine appeared, but gave him relief. For the last four months he had been in the Lincoln Hospital, and the treatment pursued had been directed to his genito-urinary tract. His father died, aged 64, of gravel; and the patient had been married for fourteen years without any family. His nervous, respiratory, circulatory, integumentary, and alimentary symptoms were apparently normal.

On admission, he complained of the gravest torment in his loins, especially on his left side; this agonising pain was persistent, and passed forward to the hypogastrium. His left circumflex ilii vein

was dilated, and so were the venous radicles around the upper and outer side of the left thigh. The pain was referred down the branches of the left external cutaneous, and both genito-crural nerves. His left testicle was supremely irritable and sensitive; and a distinct induration was to be felt at each globus minor of the epididymis. Neither testicle was retracted. He wet his bed every night, and had a frequent desire to micturate by day; the urine was very faintly acid or quite neutral, rapidly becoming alkaline, of specific gravity 1030; it contained blood, pus, and mucus, and stank (as he said) like the smell of a dead body. No fragments of stone had been seen. Albumen was inconstant. He had oedema of the ankles after standing. He was ordered a grain of opium twice a day, daily four ounces of port, four pints of milk, two pints of beef-tea (double strength), two eggs, and toast and water. No urethral stricture nor calculus in the bladder was found; and, feeling that there was considerable diagnostic doubt, after a consultation with my colleague Dr. Basham, I proposed to introduce my hand *per rectum*, and ascertain whether or not a renal calculus could be felt by this manipulation.

January 30th, 1877.—He first had a free enema of warm soap and water. Under the influence of chloroform, I injected about half a pint of sweet oil into the rectum; cut my nails, soaped my right hand, and by a screw-like movement inserted my hand as a cone into the rectum; the sphincter ani was felt to split, and slight oozing of blood followed. The promontory of the sacrum was felt, the common iliacs, and the aorta as a pulsating column. The sigmoid flexure was then carefully traversed; the transverse processes of the lower lumbar vertebrae were felt; and lastly the lower fourth of the kidney as a rounded tumour. Beyond this my hand would not pass, but impinged upon the velvety wall of the colon. The capacity for using the hand as an independent tactile agent was not great, yet as a counter-resistant with external manipulation it was capable of receiving tactile impressions. On the inferior surface of the kidney were two elongated nodules, which did not pulsate. The *post mortem* examination proved these to be a knuckle of contracted large intestine (descending colon). The hand was gently and gradually allowed to be forced down by the colon and rectum; it was slightly smeared with blood, and somewhat cramped, reminding one of having performed version in a parturient woman. The anus collapsed to about the diameter of a crown-piece; and the whole procedure occupied ten minutes. Before removing my hand, the posterior wall of the bladder was supported by the hand: the sound was passed *per urethram*, but no stone was detected. The man was put into a warm bed, and a grain of opium given twice a day.

January 31st.—Two grains of opium were given extra, because the man had such grievous pain in his back and left loin. He said that his back must break. The urine was slightly tinged with blood. No fæces passed.—4 P.M. Sickness (of food) came on, with profuse perspiration. The two grains of opium gave the man relief by making him drowsy. He had ice to suck.

February 1st.—Since 9 A.M. the sickness had ceased, but nausea continued: the pain was not so severe; he took his fluid nourishment eagerly. At 4 P.M. sickness recommenced, and ceased at 8 P.M.

February 2nd.—He slept a little: the pain was not so severe: he could now lie on his back, whereas previously he was compelled to lie on his right side.

February 3rd.—Motion was passed involuntarily.

February 5th.—The anus was of the size of a half-crown piece: fæces were passed involuntarily; the pain was lessening: the urine was clear, slightly alkaline, and of a faint sickening smell. Dr. Basham saw the man; he considered the case as one of pyelitis, and advised *pareira brava*.

February 6th.—Great pain was complained of over the left crest of the ilium: the man's tongue was clean, and he passed a good night: the testis was retracted. He was ordered to have fish and eight eggs daily.

February 11th.—The symptoms continued the same; some days the urine was clear and healthy, at others turbulent and bloody (neutral to test-paper). I thought it right to send for his wife to-day, because he was not improving, and also to cut off his opium, as the drug might mask his progress. His right testis was especially sore to-day; neither was retracted.

February 17th.—The symptoms continued the same, but on the whole the man was weaker, and his face was pinched.

February 24th.—Continence of fæces was regained for the first time since January 30th.

February 27th, 2.30 P.M.—He complained of very great pain over the lower part of his belly, corresponding to the hypogastric region: sloughy shreds passed: and he fancied he passed urine *per anum*. At 3 P.M. he was partially dressed, and sat up for twenty minutes; then he had to go to bed again, because he felt tired: the pain in the

back and belly gradually increased, and he had presentiment of death at 5 P.M.

February 28th.—He had excruciating pain in his back: he begged to be placed on his face, which was done, and he died in this posture at 3.20 A.M.

POST MORTEM EXAMINATION on February 28th, at 3.30 P.M. The body was well nourished. *Post mortem* rigidity was present. The head was not examined. The thoracic viscera were healthy, excepting emphysema at the edges of both lungs. On opening his abdomen, there was no evidence of any peritonitis; the small intestine was irregularly and abruptly contracted for about two and a half inches at the commencement of the ileum, and the large intestine was also contracted to a minimum at the junction of the ascending with the transverse colon, and also from the descending colon to the rectum: the bowel was not adherent to either kidney.—*Kidneys*: The right was hypertrophied, and had two small serous cysts on its periphery; its envelope stripped off easily, and on section healthy structure was exposed: its weight was six ounces.—*Left Kidney*: Only a fibrous capsule remained, and this was nodulated as if twenty small white marbles had been squeezed when in a soft state into the fibrous bag: each tubercular deposit was pulsatious, and like white soft mortar: each marble had its fibrous investment, which led towards the pelvis of the kidney. At the lower part of the organ a collection of pus (four ounces) was found, and after the matter had been washed out this remnant of a kidney weighed four ounces: it was contracted to half the normal size: the pus was faintly fetid.—*Ureters*: The right ureter was a double one, leading up to two pelves: these two ureters joined after leaving the two pelves at a distance of three inches from the kidney: their structure was healthy. The left ureter was shortened, stiffened, and of variable size from the more or less tuberculous deposit in and around its walls: at the point where it crossed the left common iliac artery its coat had given way, pus and tuberculous debris and blood had gravitated downwards behind the rectal column, and had reopened into the rectum by a small ragged opening on the posterior wall of the sewer. The apertures of the ureters in the bladder were dilated.—*Suprarenal capsules*: The right was healthy, the left much atrophied.—*Bladder*: The coats were thin, but otherwise normal: no deposit was noticed.—*Testes*: Both testes were normal in size, and glandular structure unaltered to the naked eye: no spermatozoa were found; the globus minor of each epididymis held a yellow tuberculous patch of the shape of a pea; and both vasa deferentia and vesiculæ seminales were choked with yellowish-green tuberculous paint: this stuff could be squeezed along the vasa into the urethra. The urethra was normal: there was no stricture. The upper three-fourths of the rectum, the sigmoid flexure, and descending colon, were healthy. The anus was patent to the size of a shilling, and the sphincteric structures were thickened, apparently from organised lymph: some faecal matters were found in the rectum.

Mr. Thomas Smith has carefully recorded six cases of this kind in vol. viii, page 95, of the *St. Bartholomew's Hospital Reports*, and his simile is apt in placing the disease on a parallel with phthisis pulmonalis. Frequent micturition, hæmaturia by night (*i.e.* after the day's fatigue), intermittency of subjective symptoms, pus, and mucus in the urine closely pictured the features of renal or vesical calculus; the rectal aperture explained the man's sensations on the day before his death; while the starting points of this train of pathological results may be assumed to have been three in number, *viz.*, from the left kidney and the two epididymides. The man's sterility is obvious. The engorgement of the left circumflex ilii vein is accounted for by the direct pressure on the left ascending lumbar veins. The relief gained by passing the catheter was probably mental, or divertent; but the surgeon's power for good in phthisis renalis (so far as drugs are concerned) seems to be of a most limited nature.

The introduction of the whole hand into the rectum was practised by Mr. Maunder in the year 1866, for pelvic diagnosis and for strictured large bowel: in Holden's *Landmarks* (1876), page 70, there are some remarks by Mr. Walsham, demonstrator of anatomy at St. Bartholomew's Hospital, on rectal palpation. He has introduced his hand into the rectum for the diagnosis of strictured sigmoid flexure with doubtful result. Mr. Walsham's hand measures in circumference about seven and a quarter inches; my own measures eight inches. I consider that the introduction of four fingers into the rectum is a valuable method of diagnosis, say, for stone, or uterine ailments, or for strictured intestine; that the insertion of the whole hand and forearm is a possible but severe procedure; that occasionally it may aid diagnosis (in my own case it enabled me to exclude stone in the bladder or kidney or ureter from consideration). This mode of examination can never be available for general practice, because the information thereby gained is not equivalent to the incurred distress; and let me add, that once on the *post mortem* table my hand ruptured the superior portion

of the rectum. The surgeon's hand through the rectal tube has been utilised in *post mortem* examinations for the abstraction of the kidneys and other small viscera: I mention this only to express my regret that any such underhand examination has been necessitated, by reason of friends negating an essential but disagreeable duty of our profession in the pursuit of truth.

REMARKS ON THE TREATMENT OF TINEA TONSURANS.

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THERE are numerous agents which seem to have more or less active influence in the treatment of ringworm; some being advocated by some practitioners as superior to others, while these again have their own supporters. The spores of the trichophyton appear to resemble the microspores lately examined by Professor Tyndall in their obstinate resistance to destruction; and the successful treatment of cases of tinea tonsurans clearly depends on determining whether it is possible to destroy these spores, or whether, by preventing their germination for a certain period, the disease practically cures itself. The observation of some troublesome cases of ringworm which had been under various kinds of treatment without much benefit, suggested a plan of treatment which excluded the possibility of destroying the trichophyton spores, and only had for its object the arrest of proliferation of the germs. The question of the destruction of microspores is one which perhaps does not present itself as quite a different question from the prevention of their development. An example will illustrate what is meant. If we take a solution containing bacteria, such, for instance, as that in which bladders are prepared for museum purposes, the odour of which is singularly powerful, and add to it a certain quantity of carbolic acid solution of the strength of 1 in 40, we shall find that the active living organisms which exist in the former will be instantly destroyed and the odour removed. If we do the same thing with a solution of salicylic acid of full strength (water absorbs only about 1 in 400) the organisms are not destroyed and the odour is not removed; that is to say, salicylic acid will not destroy well-developed bacteria. But salicylic acid will prevent them from developing, as is proved by the fact that we may preserve animal or vegetable matter from decomposition by treating it with solution of the acid. We thus see the importance of distinguishing between agents which destroy bacteria and microspores, and those which simply prevent their development; and there is no doubt that those who have been studying this most interesting subject by clinical, microscopical, or physical methods are well aware of the importance of ascertaining the conditions which favour or arrest the development of different species of germs; clearly a stage in the inquiry beyond that of the extent to which the germs may be destroyed by various agents.

As it is well known that some of the remedies used for ringworm are less liable to produce inflammation of the skin than others, it is most desirable to give a preference to the former, the production of inflammatory changes seeming rather to retard than promote the action of a remedy. On this principle I have, during the last twelve months, used carbolic acid, the most certain agent for the prevention of the development as well as for the destruction of microspores, with decidedly better results than were observed when iodine, tincture of the sesquichloride of iron, or any other agents had been employed, including Goa powder, which has lately been recommended as superior to most others. There is one important point which must be attended to under any circumstances; and this is, the necessity of much more frequent application of any remedy than is usually considered requisite, for the reason that most species of microspores require only a few hours to advance from one stage of development to another, and that, in order to prevent any increase in the number of the spores, though we may not be able to destroy them, it is absolutely necessary to apply the remedy at intervals of not less than six hours. The best preparation for this purpose is a combination of sulphur and olive-oil in equal parts, to which carbolic acid in the proportion of two grains to the drachm is added. To prevent the contact of the fingers of the person who applies it, and who is liable, without caution, to take hold of a child by the neck or shoulders, and thus produce the disease on other parts, a small sponge or brush should be used. This must be done every four or six hours, the head being washed with Castile soap and warm water night and morning before the application of the carbolised oil. If a stronger solution of the acid be used, as, for instance, in the proportion of 1 to 10, it will be

found that a certain amount of inflammation is produced, and the frequent application of such a mixture cannot long be pursued. After making various experiments of this kind, I have found the preparation given above most satisfactory, and believe that the treatment of ringworm with carbolised sulphur oil may be recommended as superior to any other in common use.

As a matter of experiment, there is no doubt as to the fact that no agent with which we are acquainted is to be compared to carbolic acid for the destruction of organic life without destruction of organic matter, and that no agent is so useful in treating parasitic diseases of the skin, from the fact that, in proportion to its destructive action on the organisms which produce them, it is the least injurious to the cutaneous tissue.

Attention to details is of such importance in the treatment of tinea tonsurans, that it is necessary to add to the above directions the remark that the hair should be cut close with scissors, and that the oil should be rubbed into the skin for a few minutes. The treatment should be continued for at least a fortnight after the disease has apparently been cured. Either of the following prescriptions may be used. The first has the advantage of not becoming thick or dry from evaporation, while the second is cleaner and cheaper.

R Sulphuris precipitati, zinci oxidi, aa ʒj; olei olivæ f. ʒj; acidi carbolic gr. xvi.

R Sulphuris precipitati, zinci oxidi, aa ʒij; glycerini, aquæ, aa f. ʒijj; acidi carbolic gr. xvi.

REPORT OF A CASE OF PARAPLEGIA DEPENDENT UPON SOFTENING OF THE SPINAL CORD.*

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WILLIAM M., aged 42, single, an itinerant herdseller, residing in Newcastle-upon-Tyne, was admitted into the Newcastle Infirmary, under my care, November 18th, 1875. He stated that for three weeks he had been unable to pursue his occupation, in consequence of numbness and a prickling feeling of the lower extremities, and from increasing inability to walk, the right leg being weaker than the left; also, that he had suffered from a dull pain in the lumbar and sacral regions of the spine, accompanied with a tight feeling in the abdomen, and at times from cramp of the calves of both legs. He had been much exposed to the vicissitudes of the weather, having to gain his livelihood by attending upon a stall placed in the streets, and in consequence had suffered greatly from coldness of the extremities, especially the lower.

Upon examination, it was found that his spine was curved, convexo-concave in form, the convexity being situated at the dorsal region and the concavity at the lumbar; the convexity being directed backwards and the concavity forwards. The curvature had existed since he was ten years of age. Upon percussion of the spines of the lower dorsal vertebrae, especially the tenth, there was distinct tenderness. When a sponge dipped in warm water was applied to the spine, a burning sensation was complained of about the tenth dorsal vertebra, with a natural sense of heat in the vertebra above. The passage of a piece of ice over the vertebral column produced a sensation of cold everywhere, except at the level of the tenth dorsal vertebra, at which spot a feeling of heat was experienced. He was able to raise both his legs from the bed, but there was a great tendency to crossing of the legs one over the other, especially the left over the right. When the soles of the feet were tickled, the legs were suddenly jerked from the bed, the right more suddenly and more forcibly than the left. When assisted out of bed, he would have fallen to the ground if he had not been supported, and he was quite unable to move the legs as in the act of progression. The sensation of both feet and legs, as also the temperature, was equal. Both legs were wasted, and the muscles were very flabby. He had full control over the bladder and rectum. The urine was normal in colour, slightly alkaline in reaction, of specific gravity 1028, was free from albumen, but contained an excess of phosphates.

He was ordered to take twenty minims of the liquid extract of ergot, in water, three times each day; and, as the skin over the convexity of the spine and the sacrum was inflamed, he was placed upon air-cushions.

November 29th. He expressed himself as having more power in the legs, also said that the extremities were less numb, but still complained of pain in the lower part of the spine and the tight feeling in the abdomen.

* Read before the North of England Branch.