

ARTICLE II.

USE OF THE ÉCRASEUR FOR CURING DEEP-SEATED FISTULA IN ANO. By
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THE frequency of fistula in ano has its origin in some ill-defined proclivity on the part of the tissues about the rectum to a subacute form of inflammation. A proneness to the development of abscesses in this region may be explained by the turgescence of the abundant supply of blood-vessels connected with a want of proper evacuation.

The rectum being the receptacle of the excrementitious mass resulting from the materials that constitute our food, may be irritated by the long continuance of the indurated feces in the canal. It is also liable to injury by the passage of foreign bodies that have been swallowed, and that have rough or very irregular surfaces which offend the mucous membranes.

A purulent discharge from an inflammation exterior to the walls of the rectum, that finds its way outside of the sphincter ani, is not often attended with serious consequences. The source of trouble that terminates in fistula is generally an abrasion or pustular inflammation involving the lining membrane and the adjacent areolar tissue of the canal, by which the vitiated fluids penetrate the cellular tissue, and permeate the surrounding muscular substance. A tract or channel is thus formed which is destined sooner or later to reach the surface externally at varying distances from the anus. If the origin is near the outlet of the rectum, the point of discharge externally will usually be found immediately outside of the sphincter ani. But if the source of the fistula is high up in the canal, the route of the discharge may be in the direction of the sacrum or through the muscular fibres of the glutens, and there may be several lines of communication with the surface. A single opening by the ulceration of the mucous membrane of the rectum may cause a fistula that diverges in different channels, and thus permeating all the tissues, finds several outlets at various points over the sacrum or on the buttocks. As a rule, when fistulous tracts are formed superficially over the sacral or gluteal regions, there will exist an ulcerated opening in the lining membrane of the upper part of the rectal canal. But it happens occasionally that we are unable to trace this connection, and perhaps in some cases the internal lesion has cicatrized while the outer fistulous tract continues. In a case that was under my care some time since for fistulous discharges over the sacrum, in a vigorous young Brazilian, I laid open the superficial communicating channels with the knife, and found in one of them a pledget of short hairs of an oblong shape, which had an unmistakable fecal odour. I expected from this to be able to trace a communication with the rectum, but no connection could be discovered, and the crucial fistula that was laid open closed by granulation, and gave no further trouble.

Another serious case of extensive superficial fistula is under my observation at present, and has prompted me to prepare this paper.

CASE I.—There were four extensive tracts over the posterior gluteal region, being two on either side of the sacrum, communicating each with its fellow, but not apparently connected with those of the opposite side. The two on the right side, being on the posterior aspect of the hip, were laid open with the bistoury and grooved director ten days since, while the two on the left hip have remained for another operation when the former shall have made some progress in granulating. In them it has been requisite to draw the gaping skin together by adhesive plaster for the advancement of the healing process, which has been proceeding regularly thus far with dressings of lint and carbolized oil.

In the tracts already laid open no communication was detected with parts more deeply seated, yet it may be that upon making the incision of the fistula over the left buttock the line of communication with the rectum may be found. Upon exploring the rectum indications of former ulceration were discovered high up in the canal, and the posterior wall gives evidence of a cicatrization, with adherence to the promontory of the sacrum. It is hence clear that this was the focus from which the fistulous tracts were extended to the superficial parts of each hip, and it is not improbable that there may still exist a small orifice by which the secretions escape from the rectum, and keep up the irritation along the lines of communication with the external outlet. Although the cicatrization in the upper posterior part of the canal indicates that an orifice existed previously, and has been obliterated, the examination within does not reveal a lesion of the mucous membrane at present, and the final result will enable us to determine the mooted question as to the spontaneous closure of the internal opening of a rectal fistula while the external outlet keeps up a discharge of pus.

This patient is a young negro man, who has done the ordinary service of a slave upon a coffee farm, and has doubtless received nourishing food, but has not had that variety in those plain articles which his condition demanded for alimentation. There exist over the region of the clavicle several patches of ulceration which indicate a scrofulous diathesis, yet they are improving under the influence of cod-liver oil and generous fare so that the restorative process in the incision is going on very favourably, yet the general condition of the subject is not altogether satisfactory for the good result of an operation on a large scale.

The other superficial tracts will be laid open with the knife as those have been; yet should it turn out that some of them have a connection with the canal of the rectum, it may be requisite to separate the deep-seated tissues with the chain of the *écraseur*, and hence I have introduced a notice of this case as a preliminary to the description of those which have been operated upon by this instrument.

It is not necessary that the *écraseur* shall be used to perform simple operations that may be suited to the employment of a bistoury and grooved director, or to the use of gradual constriction by the loop of a cord or wire. The fistulae, which originate immediately within the anus and terminate at a short distance outside of it, may be divided so safely and expeditiously with the knife as not to require the use of an anæsthetic, and should the

patient insist upon lessening the pain of cutting, local anæsthesia will serve the purpose without the risk or delay of inhalation.

The whole subject of fistula in ano affords an interesting field of investigation, and there is much for study in the improvements which have been effected in the mode of treating the various forms of this troublesome affection. But, as I am limited to a notice of one important branch of the subject, this paper does not include those phases of the disorder that are most frequently encountered by the practitioner.

It has happened that a large variety of these fistulous affections about the rectum have come under my observation here within the past ten years, and it has been noted that the cases of gravity are far more frequent in this place than in the Southern United States, where an extensive field of observation afforded few cases in comparison with those I have encountered in Brazil. Some of the cases that form the basis of this paper have occurred in the practice of other physicians with whom I have co-operated in their management, or in the necessary operations, while a considerable number have been under my own care. It is not my purpose to present any statistical record of the different kinds of fistula in ano that have been treated; but, putting aside the more familiar examples of simple cases, such details will be presented as may give a proper conception of the graver varieties that have come under treatment. Not treating of cases in which palliatives are to be used, nor of the more simple operative procedures for the cure of ordinary fistulæ, no reference need be made to those examples, and hence attention is directed only to the class of deep-seated fistulæ which are appropriate for the application of the *écraseur*.

The principle upon which this instrument acts allows the use of a cord, wire, or chain to constrict and in the end divide the tissues, which are inclosed within the loop. Having employed the jointed chain formerly with satisfactory results in the excision of hemorrhoidal tumours, preference was given to it for dividing the parts that intervened in fistula. When the tract or channel penetrates to such a depth as to cause apprehension of hemorrhage by cutting with the knife, the tissues may be divided without any risk by the chain of the *écraseur* of Chassaignac. The instrument should be tightened up to the point of dividing the cellular tissue and muscular fibres, and, even when an extensive mass is divided, no bleeding occurs. The chain may pass high up into the canal of the rectum, where there are vessels which would bleed profusely from an incision with the bistoury, and yet no hemorrhage ensues upon their division by the chain of this instrument.

The essential conditions which indicated very clearly this operation have been presented in three cases of extensive fistula in ano, in which there was such correspondence in the history of the individuals as to be types of the uncomplicated rectal disease.

The patients were active, robust, and otherwise healthy persons, so that the affection could not be attributed to any constitutional disease, but was most probably the result of some local injury or ulceration of the mucous membrane of the canal immediately below the contraction of the circular fibres which serves as a division between the sigmoid flexure of the colon and the rectum; or, in other words, near the internal sphincter which ordinarily retains the excrementitious matter within the lower part of the intestine. The internal opening in each case was high up in the rectum, and the fistula extended from this aperture deeply into the surrounding tissues, so that the tracts or channels lead out in one case over the sacrum, and in the other two reached the lateral aspect of the buttocks. The line of communication between the internal orifice and the external outlet of the fistulas, in each of the three cases, exceeded six inches in length.

CASE II. was an athletic, middle-aged man of German descent, but a native of Brazil, who led an active life as manager and part owner of an extensive machinery establishment. CASE III. was an able-bodied negro man, about twenty-five years old, who laboured upon a coffee *fayenda*. CASE IV. was a robust black woman, of perhaps thirty years of age, whose service had also been in the coffee-field.

With all the antecedents of nourishing food and exercise in the open air, each of these cases developed extensive fistulae without any material impairment of their general health, and afforded most favourable conditions for an operation involving the deep-seated tissues.

It may be stated in advance that in all these extensive divisions of the muscular fibres the subcutaneous injection of morphia, with the inhalation of chloroform, has been resorted to previous to operating, and a full dose of sulphate of quinia has been given subsequently, thus preventing the suffering and consequent shock to the general system of the patient.

In Case II. the fistulous openings were connected by channels that crossed immediately over the upper middle part of the sacrum, and when these were laid open the incisions presented two lines of 4 x 6 inches at right angles in their middle point so as to form a cross. This division was effected with the bistoury and grooved director, extending to every depression that could be reached, and yet without discovering any aperture by which to trace a communication with the lesion that had been found in the rectum. This difficulty caused a postponement of the final operation until the close observation daily of the fistulous surface now exposed to view revealed the exact site of the orifice.

It may not appear impertinent to remark that all fistulous channels over the region of the sacrum and ischia, even when they appear to be superficial, should be suspected to have their origin in the rectum, and are to be explored with great care to locate the point of entrance. The opening may exist in any part of the superficial tract, and after the fistulous channel is opened it may prove impracticable to pass a probe into the orifice, though there may exist a lesion high up in the rectum, which indicates that a communication should be found. A little patient watching, as in this case, will generally be rewarded with success.

Having determined with accuracy the orifice of the fistula and the line of its communication with the upper part of the rectum, the chain of the *écraseur* was secured to an elastic bougie and thus drawn into the tract of the fistula, passing out of the rectum through the anus. This extremity

of the chain being joined with the other, which remained outside of the orifice on the right side of the sacrum, they were both attached to the instrument. Thus it will be seen that all the tissues contained in the great sacro-ischiatic notch were included in the loop of the chain attached to the écraseur. It was cautiously and gradually tightened until every portion of the substance, in which the sphincter ani entered, was entirely divided, and without any hemorrhage. Such a chasm has not perhaps been made previously into the canal of the rectum as was caused by the passage of the chain of the instrument through the large mass of the cellular and muscular tissues adjacent to the sacrum and the coccyx on the posterior aspect of the right buttock. This immense wound was filled up with fine strips of old linen (which I prefer to lint in these cases), previously saturated with carbolic oil, and the dressings were daily renewed to the great discomfort of the patient, as there was such an extensive raw surface exposed. At the end of one month very considerable progress had been made toward the restoration of the divided parts, and within three months all was completely healed. The only trouble that remained was some lack of retentive power on the part of the sphincter ani, which was so far relieved at the end of twelve months that only when there were fluid evacuations was any difficulty experienced. Five years have elapsed since this operation, and the gentleman has been actively employed since the close of the first year without further inconvenience locally or generally.

CASE III. presented quite a number of fistulous openings over the posterior aspect of the buttocks, and it was at first suspected by another physician who examined the case that they resulted from brutal chastisement of the slave, though there was no allegation to this effect. But upon examining the rectum the origin of the trouble was detected in the upper part of this canal, and the tracts extended from this in different directions to the surfaces over the sacrum and the ischia, involving the right and left buttocks. It was ascertained that the smaller superficial channel of some three inches in length could be divided safely with the bistoury and the grooved director that was passed on the posterior part of the left buttock. The other two extensive tracts involved tissues that would have caused bleeding if the division had been with a knife, and hence it was most expedient to use the écraseur. The chains of two instruments were passed through the respective channels and out at the rectum, in the manner described for the previous operation, and the division of both was effected at the same time without any loss of blood.

In Case II. the large gaping wound, resulting from such an extensive solution of continuity, presented something considerable for the healing process. But in this second operation there were two incisions quite as deep, and one of them of greater length; while the third made with the knife, though less, would have been important but for the immensity of the others. There were two superficial fistulous tracts, communicating laterally with the main channels, which were left for treatment by the use of injections, and they were cured while the dressings were applied to the grand chasms with strips of linen and the carbolic oil.

In this operation the rectum, including the sphincter ani, was laid open to within a half inch of the ring of circular fibre that divides this canal from the colon and implicated all the sacro-ischiatic spaces, which corresponded very much to the second case. But independently of this there was a far more extensive division of the soft parts, making with the former something less than a right angle outwardly in the huge mass of the right

buttock. This last was divided much after the manner that a butcher would proceed in getting out a rump steak.

Even to the professional eye it was a hideous sight, and there seemed scarcely a hope for the restoration of this vast destruction of substance; yet the curative powers of Nature asserted themselves in a most satisfactory manner, and in less than twelve months this negro returned to his ordinary work on the plantation entirely well, having complete control over the sphincter ani. He was operated upon three years ago, and for the past two years has not required any professional attention.

CASE IV. had two deep fistulæ, whose external outlets were nearly equidistant from the junction of the sacrum and coccyx on either side, having each a communication with an opening about midway up the rectum. The channels being tortuous could not be traversed by a metallic probe or director, yet they were explored by a flexible bougie, to which the chain of the écraseur was attached, and thus loops were thrown round the intervening parts. Two instruments were used so as to encircle the tissues on either side and divide them at the same time. As the chains included a portion of the buttock that contained no vessels that could yield any considerable amount of blood, the tightening of the screw in the one and the working of the handle in the other instrument were done rather too fast, and, as a consequence, there was some sanguineous oozing from the divided surfaces of the muscles. This, however, ceased upon the application of a strong aqueous solution of phenic acid, which has proved in my hands an effective hemostatic, even when small arterial twigs are divided by the knife.

The usual dressing of fine strips of old linen saturated with carbolic oil was kept up for some weeks, and the cure was completed within two months, so that the negress went about her duties on the farm.

The most remarkable feature in connection with these extensive divisions of the deep-seated fistulas, involving the cellular tissue and the muscular fibre surrounding the rectum, is the comparatively slight effect produced upon the general system. There has been very little febrile excitement after any of these heroic operations, and the restorative process has also progressed very satisfactorily in all three cases.

Trusting that my record of these operations may induce others to present their experience in the management of deep-seated rectal fistulæ, I have great confidence in recommending the écraseur to the favourable consideration of my colleagues when they have to deal with these grave cases. The advantages of this simple instrument are so evident as only to require a knowledge of the immediate and final good results of its application in such operations, that it may be appreciated by surgeons generally.

I make no reference to the hopeless cases that have come under my observation for which no remedial step was undertaken because of the general prostration, and not from any apprehension of the consequences of arresting the fistulous discharge. I will be excused by those who are most experienced in the treatment of these disorders of the rectum for not adopting the idea of former times, that the drain thus induced upon the adjacent parts has a salutary influence upon tubercular disease of the

lungs or upon chronic affections of the liver. The evidence is conclusive to my mind that the general debility and constitutional irritability resulting from the constant wear and tear of fistulas involving the tissues surrounding the anus, are in most cases aggravating circumstances in the progress of other diseases, and the sooner and the more effectually they can be cured the better for all the disorders of the animal organization. Being advised of the position taken by Brodie, Astley Cooper, Theophilus Thompson, Druitt, Chelius, and others, in opposition to the radical cure of fistula in ano which occurs in the course of organic disease of the lungs or liver, I cannot acquiesce in the view of these high authorities and set aside the experience of other observers equally entitled to consideration. It may be held that distinguished names of our day are marshalled against operating under such conditions, and amongst them stands out bold and prominent that of the sagacious Dr. Gross.

"All attempts," he says, "at a radical cure are, of course, inadmissible when there is serious organic lesion in other parts of the body, especially the lungs. To avert the local irritation would, in such an event, prove highly detrimental by expediting the fatal crisis. Palliation alone, not cure, is sought; or cure, slow and chronic, occupying months instead of weeks, in its accomplishment."

This *ipse dixit*, coming as it does *ex cathedra*, must be weighed with facts. However great may be our respect for the professional opinion of such an erudite author, it is evident that holding this view in regard to therapeutic indications in this pathological state of the system, he could not, from the nature of the case, be supposed to have put the matter to a practical test. It must be inferred that he has based his statement upon a preconceived impression derived from those who have heretofore given judgment in a case of fistula in ano that is connected with some other organic disease unfavourable to any operative procedure that looks to a radical cure. It is thus at best but negative testimony, which may be set aside by positive results.

The "chronic cure," which is recommended in the event of using any remedial measure, so as to spare the physical strength of the patient, reminds one of lessening the shock to the dog by taking off his tail by piecemeal, an inch at a time, instead of removing it all at one stroke of the knife.

Thus the slow treatment suggested for the fistula in ano of the subject of hepatic or pulmonary disease must operate upon the delicate organization of the tissues about the rectum, making the oft-repeated impressions of these temporizing applications, instead of the speedy and efficacious effect of a single and well-directed operation in cutting short the entire train of disorders.

No one would expect any advantage from resorting to a surgical operation for fistula in ano when it occurs under circumstances that indicate a speedy fatal termination of some other disease, because the utter hopeless-

ness of the cure of the grave affection with which it is associated leaves no chance of benefiting the patient. But this consideration differs widely from the indisposition to cure the fistula from the impression of its proving hurtful to the subject of a disease less serious in its character.

It is not by any means satisfactorily shown that any pulmonary or other organic disease becomes aggravated by the cure of fistula in ano, and independent of my own results indicating the relief afforded by a timely resort to an operation under such circumstances, I am endorsed by the authority of Erichsen, who, thirty years since, wrote as follows: "I have, however, in several cases found considerable advantage result by operating for fistula in the early stages of phthisis, or in suspected cases of that disease, the patient's health having considerably improved after the healing of the fistula."

The continuance of such a drain is not proven to be any advantage or its discontinuation shown to be productive of evil, and moreover the change is never brought about suddenly, as the suppuration from the incised surfaces diminishes gradually until the granulation completes the cure. Hence we should not be deterred by this supposed metastasis from the suppression of a customary discharge.

Addendum. April 22, 1881.—The incisions made in Case I. for fistulæ on the right of the sacrum having made favourable progress, the fistulous canals on the left hip were laid open to-day by Dr. Melchert with the co-operation of Dr. Lima, in whose infirmary the negro is under treatment.

One of the canals, being eight inches in length and extending from the lower part of the sacro-iliac junction directly across the external iliac muscle, was laid open with a free incision of the knife passed on the director. Two short tracts were opened likewise immediately over the sacrum. Upon exploring downwards from the principal incision, a fistula was discovered in the direction of the sacro-coccygeal articulation, and was laid open with the director and bistoury down to the outer boundary of the upper part of the rectum. As we could not trace the opening into the canal, and the extensive incisions already made must tax the recuperative powers, it was determined as best to await further observation as to the connection of the fistula with the rectum. When the incisions made formerly and these shall have healed, it will most likely appear that the tract communicating with the canal of the rectum still remains open, and the line of connection can be traced with more certainty. Should this orifice exist, as I am convinced it does, in the mucous membrane, the operation with the écraseur will yet be in demand, as the tissues to be divided will not admit the application of the knife. With a view to promote the granulation, lint well soaked in carbolized oil is placed in the channels of the fistulæ that were laid open, and this dressing will be continued from day to day until the approaching cicatrization admits adhesive plaster.