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**Contributors**

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*Wm. Ferguson Esq  
with the authors  
kind regards*

AN ESSAY

ON THE

SURGICAL TREATMENT

OF

HÆMORRHOIDAL TUMOURS.

BY

HENRY LEE, F.R.C.S.

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*Read before the Medical Society of London, Feb. 11th, 1854.*

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## ON THE SURGICAL TREATMENT OF HÆMORRHOIDAL TUMOURS.

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IN the year 1843, Dr. Houston, surgeon to the City of Dublin Hospital, published an article in the *Dublin Journal of Medical Science* advocating the use of nitric acid, of a specific gravity of 1500, in two kinds of hæmorrhoid affections.

The first of these is described as a sort of aneurism by anastomosis of the small vessels of the mucous membrane and submucous cellular tissue: the second as of a chronic inflammatory nature, and best illustrated by comparing it to the red, villous, tender, hæmorrhagic surface exhibited by the mucous membrane of the eyelids in old cases of chronic conjunctivitis.

“If such be a correct view of the pathology of certain internal hæmorrhoids,” observes Dr. Houston, “are such severe remedies as the knife or ligature either necessary or safe? If the seat of the baneful part of the affection lie on the surface why not rather adopt such means as will remove that surface, *per se*, without extending beyond it, rather than such as may, on the one hand, by going to an unnecessary depth, wound vessels of such magnitude as are capable, when opened, of pouring out blood to the hazard of life; or on the other, by the severity of its operation, engender the the most painful and the most dangerous symptoms? No man”, continues Dr. Houston, “ever applies either the knife, or scissors, or even the needle and ligature in any such patients without more or less misgiving as to the success, or apprehension as to the result of the experiment. It is enough to read the objections to any one of these operations as detailed by the advocates of the other, and *vice versa*, to be satisfied of the little confidence reposed by the profession in either.”

The direct application of the nitric acid to these vascular tumours, Dr. Houston was led to believe, combined in itself all the advantages possessed by excision or ligature without any of their disadvantages. “The diseased surface,” he says,

“may be removed with little pain, and without danger; and in the cicatrisation which follows, a radical cure is effected. Nor do the good effects stop here: not only is a reparation of the worst part of the affection directly accomplished by this means, but in consequence of the bracing up of the general mucous membrane which follows the removal of the relaxed and diseased part of its surface, other varices which are present are supported and reduced in bulk. These secondary good results may be regarded as not the least important which take place.”

Besides the two classes of affections abovementioned, Dr. Houston mentions that he had reason to believe that the use of the strong nitric acid might be beneficially employed for the removal of dilations of the larger veins of the bowel, sometimes connected with these vascular tumours. “In a very aggravated case of vascular tumour, complicated with large internal varices, both one and the other were removed by separate applications of the acid. The disappearance of such varices under its use may be brought about in three ways: first, by the direct action of the acid on the whole surface of the tumour, producing a slough thereof to its entire depth; secondly, by the extension of the inflammatory action to the sac of the varix, inciting there a local phlebitis, and a consequent coagulation of the blood and obliteration of the venous cavity; and thirdly, by the destruction of the mucous membrane, simply, without obliteration of the sac—the remedy in this instance being derived from the support which its varix thereafter receives from the cicatrised and tightened membrane.”

Soon after the appearance of Dr. Houston’s valuable paper, acting upon the hint thus afforded, I was induced to try the effect of the local application of the strong nitric acid to other kinds of hæmorrhoidal tumours; and, in 1848, I published some cases and observations, showing the applicability of this mode of treatment to various kinds of hæmorrhoidal affections, and especially to such as were connected with a relaxed condition of the mucous membrane of the rectum.

From the experience which I then had, I was led to make the following observations. The benefit derived from this plan of treatment must not be expected till the small ulcers made by the caustic begin to heal. The loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the

relaxed membrane, and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coats of the bowel.

The degree of pain experienced in this operation depends in a great measure upon the way in which the nitric acid is applied. The sensibility of the thin skin around the anus is very great; and if the acid be allowed to come in contact with it, the degree of tingling pain is very considerable. If care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, a slight uneasy sensation in the lower part of the abdomen is generally all that is complained of.

In the application of nitric acid to hæmorrhoidal tumours, the degree of irritation experienced will often depend upon the extent of surface involved in the operation. When, therefore, a considerable amount of the mucous membrane descends with the tumours, it is desirable to select certain portions, to which the application of the acid should be confined. The action of the acid may be limited either by applying a small quantity at a time or by shielding the surrounding surface with a paste made of chalk and water.

Every portion of mucous membrane to which the acid extends should be as completely deprived of vitality as possible, since the degree of pain experienced will necessarily depend upon the remaining sensibility of the parts.

Unless these conditions are observed, the application of nitric acid, or of any other caustic to the mucous membrane of the rectum, may prove as serious an operation as that for which it is intended as a substitute.

The nitric acid used in such cases should be the strongest that can be procured: that which is usually kept by chemists under the name of the strong nitric acid does not effectually destroy the surface to which it is applied; and when used, it therefore produces more pain than the strongest acid, and cannot moreover be so certainly relied upon to accomplish the intended purpose.

The most convenient way, perhaps, of applying nitric acid, when the tumours can be protruded, is to encircle their base with an instrument which will at the same time hold them in their situation, and make sufficient pressure to prevent hæmorrhage in case they should be disposed to bleed. If necessary, any portions of the hæmorrhoidal tumours, or of the mucous membrane, may be removed with a pair of curved scissors, and the cut surfaces immediately wiped dry, and touched with the acid. If the application of the

acid be made before any bleeding has taken place, the blood in the divided vessels will become coagulated, and the vessels permanently healed.

Care must be taken in performing this operation, when any portions of mucous membrane have to be excised, that the pressure completely commands the hæmorrhage; for if any blood escape from the part it will become mixed with the acid, and thus prevent it from effectually acting upon the surface to which it is applied. The instrument which is best adapted for restraining the hæmorrhage under these circumstances, and for holding the prolapsed tumour in position, consists of two parallel curved plates of steel, with their internal edge slightly indented. These are connected together at their extremities, and by means of a screw or spring may be made to exert the exact degree of pressure required.\*

There is a large class of cases which generally pass under the common name of piles, which have not an inflammatory origin, and are not connected with any particular enlargement of the hæmorrhoidal veins. In the cases alluded to, the inconvenience arises from portions of the relaxed mucous membrane becoming inverted and being griped by the muscular fibres situated at the lower part of the rectum.

The insensibility of the mucous membrane in this complaint frequently causes the symptoms to be referred to the neighbouring parts, and therefore the disease may exist without being recognised. A patient will complain of a dull pain over the sacrum, or a heavy aching pain in the perinæum which neither he nor his surgeon can satisfactorily account for. In the course of time, some other symptom presents itself, which draws attention to the rectum. The usual internal remedies for piles may now be administered, but these are found to produce no ultimate benefit since the disease depends upon a mechanical cause.

In cases where the mucous membrane of the rectum has thus acquired an habitual disposition to "bag", it frequently happens that no medicine applied either generally or locally will afford permanent relief. The loose folds of membrane, which may or may not be connected with hæmorrhoidal tumours, will descend again and again, and sometimes keep up irritation in the part for years.

Permanent relief in such cases can only be afforded by

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\* The instrument described by M. Jobert, in the "Gazette des Hôpitaux" of the 1st October, 1853, is a modification of the above, a description of which was published in 1848.

such means as tend permanently to brace the mucous membrane of the bowel. The simplest, as well as the most efficacious method of accomplishing this is to remove one or two longitudinal folds of mucous membrane in the same way as above recommended for the removal of hæmorrhoidal tumours. It is not necessary to remove the precise portion of membrane which has been protruded. The destruction of any portion after the wound has healed will have the effect of bracing the remainder. In this, as in the operation for hæmorrhoidal tumours, it is the process of cicatrisation which cures the disease.

These observations, published in 1848, have been fully confirmed by increased experience. The application of the strong nitric acid to hæmorrhoidal tumours of all kinds has now become very general, and there appears at present some danger lest this very useful remedy should be brought into discredit by being indiscriminately applied to all cases.

No satisfactory account has, as far as I know, been hitherto published, giving a description of those cases in which the application of the nitric acid alone is required, and those in which this will not prove effectual. To attempt to supply this deficiency and to describe the mode of proceeding which I have adopted where the application of the nitric acid alone is not sufficient, are the principal objects of the present communication.

A distinction might be drawn between different kinds of hæmorrhoidal tumours founded on their different anatomical characters; but since these characteristics are themselves continually undergoing changes, such a distinction would be of little practical value.

The cases which are met with in practice may be much more simply and conveniently divided for the purpose of treatment into those which bleed, or are composed of a soft vascular substance; and those which do not bleed, or are formed of firmer tissue.

1. For the first of the two classes of cases, the application of the nitric acid is an excellent remedy, and in the great majority of instances no other means of surgical treatment are required. The nitric acid, when applied, penetrates the substance of the tumour, and produces its effect as described by Dr. Houston, either by causing a superficial slough or by obliterating the vessels of the part. It possesses the very great advantage of giving very little pain if properly applied, of not requiring the confinement of the patient, and of being, as far as I have seen, perfectly safe.



The following cases, which I copy almost *verbatim* from my note book, afford illustrations of this mode of treatment.

CASE I. T. F., aged 42, residing in Belgrave Terrace, came under my care on the 25th of July 1847. He stated that he had been affected with piles ten years, and had, during that period, suffered much pain in the part, of a smarting burning character. This was so severe that it occasionally kept him in bed for a month or two together. Ever since the first appearance of the piles, he had at times passed a considerable quantity of blood. He had lost, as he believed, sometimes as much as a pint a day. Two years before I saw him he had had the piles tied. This afforded him temporary benefit and he remained tolerably well for six or eight months. He had also tried, both before and after the operation, various sorts of remedies, consisting chiefly of ointments and lotions, but none of these gave him permanent relief.

He now (July 1847) suffered so much pain that he was unable to sleep at night. He experienced a constant sense of weakness about the pubis, but the pain was confined to the situation of the rectum. There was frequent desire to pass urine, and he occasionally experienced, as he described it, a dreadful irritation all over, so as to unfit him for any exertion.

At the time that the piles were tied, he was under the care of a well known surgeon who had devoted his attention almost exclusively to this branch of surgery. He experienced so much pain from the operation, that he expressed himself most unwilling again to subject himself to any similar treatment.

Upon examination, a cluster of internal piles could be detected, and might be seen protruding through the external orifice. Some ointment containing nitric oxide of mercury and opium was directed to be applied to the part. This gave him some relief, but still he continued to lose much blood and a considerable portion of mucous membrane occasionally protruded.

August 2nd. The strong nitric acid was applied to one of the most vascular and protruding tumours; and as this produced no inconvenience, a more free application of the acid was made a few days afterwards, so as to destroy a considerable portion of the protruded mucous membrane. After the operation, upon each occasion, the parts were replaced in their natural position. The continued loss of blood had at this time produced a visible alteration in this patient's

health: he had become very pale, and languid, of a sallow hue, and constantly complained of depression and weakness. He was now directed to go into the country, and he was ordered some quinine and sulphuric acid.

Sept. 9th. His affairs obliged him to return to town. He was still suffering from depression and debility, but there had been no return of hæmorrhage since the 29th of August.

August 28th, 1849. My patient called upon me and informed me that he had continued free from hæmorrhage during the last two years. The constant uneasiness had now entirely left him, but he was subject to a slight "bearing down pain only".

April 1st, 1850. He remained well, with the exception of a slight occasional bearing down pain. He said that he now felt quite another man, and could attend without interruption to his business, which formerly he could never do for long together.

Had there been any return of the disease in this case, I have every reason to believe that I should have seen my patient again.

CASE II. S. D., aged 31, came under my notice in November 1850; about four months previously, she first experienced irritation and pain in the situation of the rectum after walking or riding. This was accompanied by a very uncomfortable sensation of bearing down, about a month after the first appearance of these symptoms she first had hæmorrhage from the bowel. The blood passed was fluid and came only with the motions. The quantities discharged gradually increased and soon appeared whenever she passed her motions or water. She would occasionally, at these times, lose as much as a quarter of a pint at a time. From this cause she had become extremely weak and exsanguine.

No evident reason for this hæmorrhage could be ascertained by external examination, but, on introducing the speculum into the rectum, a tumour presented itself on the right side. Immediately above this was a transverse ulcerated fissure, from which the blood was seen to spurt across the speculum in a single continued stream. This fissure was so situated that any descent of the hæmorrhoidal tumour would necessarily draw upon and separate its edges. The tumour and the fissure above it were touched with the strong nitric acid on the 14th of November.

Nov. 22nd. She had had slight hæmorrhage the second day after the operation, but since that day she had not

perceived any. She was now feeling stronger and had improved in her general appearance.

Dec. 17th. She had had no hæmorrhage since the last report, and had regained her usual health. The bowels were now quite regular, and the motions passed without pain or inconvenience. This patient was so well satisfied with the result of the operation, and with the slight amount of inconvenience which she suffered, that I cannot doubt but that I should have seen her again had there subsequently been any return of the symptoms. This and the following case seem to afford satisfactory evidence that in severe hæmorrhoidal affections the bleeding may occasionally come from a single vessel, although, doubtless, in the great majority of instances the blood is poured out from the general surface of the tumour. In either case the disease is effectually remedied by the application of the strong nitric acid.

CASE III. H. S., aged 42, was sent to me by Dr. Guy as an out-patient at King's College Hospital, on August 26th, 1852. He then stated that he had been troubled with hæmorrhoidal tumours for twelve months, and that for eight or ten months he had lost a large quantity of blood. The quantity passed he estimated at from half a pint to a pint a day. In consequence of this continued hæmorrhage, he had become completely blanched and very much out of health. Upon examination with the speculum, a vessel was seen pouring out blood *per saltem*. The strong nitric acid was applied to the part whence the bleeding proceeded, but the continued flow of blood swept the acid away as fast as it was applied, so that the operation could not be satisfactorily performed.

August 30th. He experienced a good deal of uneasiness after the application of the acid. This probably depended upon some of the acid having become mixed with the blood, and having in consequence become diffused over the mucous surface.

The bleeding had not stopped, but the blood passed was greatly diminished in quantity. The lower part of the bowel still felt sore, and it was therefore determined not at that time to repeat the application of the nitric acid.

This was, however, done upon the 9th of September.

13th. The bleeding had now ceased.

Oct. 1st. He had had no bleeding since the last report. There was now no tendency to prolapsus, nor any other local inconvenience.

1853. April 18th. He remained quite well.

I have several times seen this patient since, and he has completely regained his health and strength. He has not, as far as I know, suffered any return of his local inconvenience up to the present time.

During the last nine or ten years, I have applied the strong nitric acid to a variety of hæmorrhoidal tumours; and, as a very general rule, I have found that it has completely and permanently prevented the recurrence of hæmorrhage; and that where this symptom has been the only, or the principal one, which caused distress to the patient, that no other remedy has been requisite to cure the disease. I have also very generally found that where other inconveniences besides hæmorrhage have been present, and the mucous membrane has not become changed in character, and hardened (as is sometimes the case, either from constant exposure or from repeated attacks of inflammation), the application of the strong nitric acid has been alone sufficient to remove the complaint.

When nitric acid is applied to a portion of mucous membrane which has undergone no material change in structure, it permeates the tissues to a certain depth, in the same way as other fluids do when applied to an internal surface of the body. This subject may be well illustrated by the following examples.\* If half an ounce of acidulated water is introduced into the pericardium of a dog killed twelve hours before, and warm water is injected in a continued stream through the coronary arteries, so as to flow into the right auricle of the heart, in four or five minutes the water gives unequivocal evidence of containing acid.

If a drop of ink is placed upon the peritoneum of a living dog, it sinks into it and forms a large circular stain, which at first is confined in depth to the serous membrane.

In an animal that had been killed by the wound of a Javanese poisoned arrow, the parts around the wound became of a brownish-yellow colour for the depth of several lines, and took the bitter flavour belonging to the poison.

In opening the abdomen of an animal some time after death, the parts adjoining the gall-bladder will be found to be deeply tinged with bile. In all such instances, an imbibition takes place of the fluid, which infiltrates the tissues of the part. Nitric acid, when applied to a mucous surface, acts in a similar manner; it permeates the membrane at

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\* Mayo's Physiology, p. 81.

the part touched, and partly by its direct action on the lining tissue, and partly by coagulating the blood in the veins, it completely destroys its vitality. This action is under ordinary circumstances confined to the mucous membrane and the vessels which supply it. The acid does not penetrate deeper than this; and consequently, its action being thus limited in depth, its effects may be regulated with the greatest nicety, according to the extent of surface to which it is applied.

This operation, properly performed, I believe to be perfectly safe; for, although cases have been recorded in which very unpleasant symptoms have arisen after the application of the nitric acid, yet, never having witnessed any such, except in cases where the acid had been injudiciously employed, I am led to conclude that such symptoms may be attributed to the rules concerning the use of this remedy, already laid down, not having been observed.

II. The cases in which the use of the nitric acid alone has not proved successful, are those in which the mucous membrane has become thickened, and the subjacent parts infiltrated with lymph, as the result of repeated attacks of inflammation; and those in which the mucous membrane from long exposure has become hardened and altered in structure. The first of these orders of cases is met with usually in the comparatively young and plethoric; the second, in patients of a languid temperament, or advanced in life. The acid, when applied in such instances, does not fairly permeate the structure of the mucous membrane; it usually removes a superficial layer only, which is soon replaced, and the diseased parts are left in much the same condition as before. These observations are illustrated by the following cases.

CASE IV. A lady, of full plethoric habit, and of a florid complexion, who had had several children, wished something to be done for some piles, which had caused her some inconvenience for a considerable time. The tumours were found to consist of firm, solid, oval masses, of a bright red colour, covered by the smooth mucous membrane near the margin of the anus. The tumours were touched with the strongest nitric acid in the usual way. At the expiration of a fortnight, they were found to be in very much the same condition as before the acid had been applied.

CASE V. A clergyman, between 70 and 80 years of age, but in good general health, complained of the constant inconvenience attending a partial prolapsus of the mucous

membrane of the bowel, and a constant discharge of a brownish fluid, which discoloured his linen. This affection had lasted for several years.

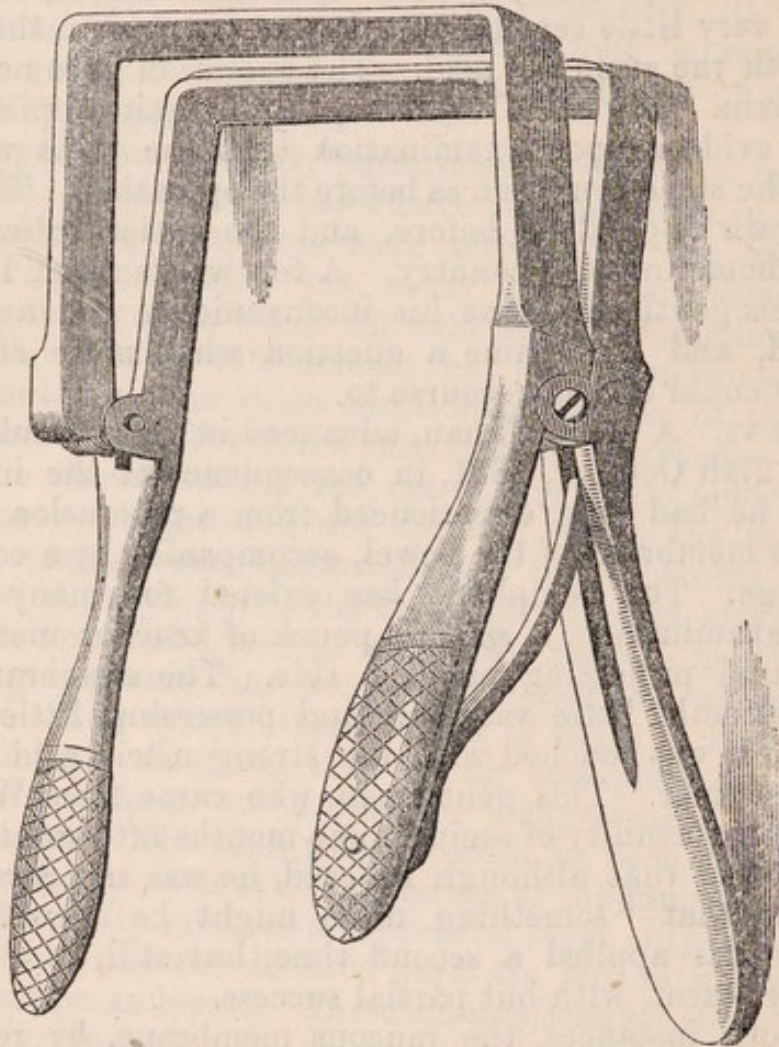
Upon examination, the mucous membrane was found slightly livid, perfectly smooth upon the surface, and possessing very little sensibility. It was touched in the usual way with the strongest acid. The operation gave no particular pain. A week after, this patient again applied, and it was evident upon examination that the parts were in much the same condition as before the operation. The acid was again applied as before, and the patient allowed to return home into the country. A few weeks after, I heard from this gentleman that his inconvenience had not been relieved, and it became a question what more effectual remedy could be had recourse to.

CASE VI. A medical man, advanced in life, consulted me on the 27th October, 1851, in consequence of the inconvenience he had long experienced from a protrusion of the mucous membrane of the bowel, accompanied by a constant discharge. The complaint has existed for many years. Upon examination, a smooth pouch of mucous membrane was found projecting on each side. The membrane was quite smooth, little vascular, and possessing little sensibility. It was touched with the strong nitric acid in the usual manner. This gentleman, who came from Wales, I had an opportunity of seeing some months afterwards. He then stated that although relieved, he was not cured, and thought that "something more might be done". The caustic was applied a second time, but still, as I subsequently learnt, with but partial success.

In such instances, the mucous membrane, by repeated attacks of inflammation, as in the fourth case, or by long exposure, as in the fifth and sixth cases, becomes altered in structure. It has no longer its villous character, and presents a perfectly smooth surface. It gradually loses its natural sensibility, becomes possessed of comparatively little vascularity, and occasionally is found covered with cuticle. The application of nitric acid under these circumstances does no harm; but I now seldom recommend it, because, for the reasons above mentioned, it does not act sufficiently upon the parts to produce a cicatrix. Its use is consequently apt to lead to disappointment, and to bring a most useful remedy into disrepute.

Whenever there is reason to believe that the application of the nitric acid alone will not act sufficiently upon the

mucous membrane, the plan I have now for some time adopted is as follows:—the affected parts are first made to protrude, and then embraced by a broad forceps, made upon the plan of the instrument described by me in 1848.



The instrument consists of two parallel thin blades, with their opposed surfaces roughened, and closing by means of a spring. This may be made to exert any degree of pressure which may be required. With this instrument the prolapsed part is seized, and such a portion of it as may be deemed expedient is cut off on the side of the "clamp" next to the operator with a curved knife made for the purpose. The cut surface is then touched with the strong nitric acid, or with the actual cautery. The parts are returned into their natural position, and the operation is completed. This plan is equally adapted for the removal of hæmorrhoidal tumours, and the excision of portions of relaxed mucous membrane, where no hæmorrhoidal tumours apparently exist. The forceps retain their hold of the base of the pro-

lapsed part after the requisite portion is removed. The cut surface is thus prevented from either bleeding or retracting, and it is held in a convenient position for the application of the cautery or caustic. This application is as essential a part of the operation, as securing any bleeding vessels is after an operation in any other part of the body.

It will frequently happen that the parts cannot be sufficiently protruded to be conveniently seized by the forceps which I have described. I have then performed the operation very satisfactorily in the following way:—a rectum speculum has a slide upon one side which may be removed; this is made to fit accurately into grooves on each side, so that by being withdrawn to a greater or less extent, a corresponding aperture is left in the side of the instrument. When the speculum is introduced, the slide is partially withdrawn, and the instrument moved about until the tumour, or the portion of mucous membrane required to be removed, projects into it. The slide is then closed, and the tumour is firmly held between it and the rest of the instrument; the projecting portion may then be cut off within the speculum by a long narrow knife, and the cut surface touched as before with the nitric acid, or with the actual cautery. Or, in case it should be deemed advisable to remove a longitudinal portion of the mucous membrane, the operation may be varied as follows:—the speculum, instead of being made single, is made double; that is, there is one speculum within another so arranged that the outer one will revolve upon the inner. Each part has an oval aperture at its side: when these apertures correspond, a tumour, or portion of relaxed mucous membrane, will readily project into the speculum. When the part to be removed has thus passed through the corresponding apertures, the different portions of the instrument are made to revolve upon each other, and thus the aperture is diminished, until the condemned part is embraced between its opposite sides. Being thus firmly held, the operation is completed as above described.

All the instruments which I have mentioned, are made by Mr. Matthews, of Portugal Street; and although they appear very simple now that they are finished, yet a considerable amount of time and patience have been required in order to get them adapted to their intended purpose.

CASE VII. R. H., aged 39, of sedentary habits and swarthy complexion, applied to me in the summer of 1852. He stated that he had suffered from piles for ten years.



During the whole of that time, he had passed blood when he went to the water-closet, and for the last four months he had suffered much pain after each evacuation. A considerable portion of the mucous membrane projected whenever he strained, and this was always followed by an uneasy sensation, which lasted for some hours. During this time, he could find no position, as he expressed it, in which he had ease. He would occasionally lose as much as half a pint of blood at once. As the bleeding in this case, although considerable, did not form the principal feature of his complaint, and as it was probable that, even if this were arrested, the protrusion of the mucous membrane and consequent inconvenience would continue, it was resolved to remove a portion of the prolapsed membrane. For this purpose, the patient was placed under the influence of the monochloruretted chloride of ethyle,\* by Dr. Snow, on the 24th of June. A portion of the protruding mucous membrane was removed in the manner above described, and the cut surface was touched with the strong nitric acid.

July 7th. For the last four days, the pain had entirely ceased. He said that he now felt "quite a new man". He had no inconvenience or protrusion after a motion.

July 21st. He felt quite well; had had no return of pain or bleeding, or other inconvenience.

This patient sent a friend of his to me in the early part of the autumn of 1853; and I do not doubt but that he would have come himself, had he experienced any return of his complaint.

CASE VIII. E. S., aged 50, a widow, had been subject to piles, accompanied by occasional slight discharge, for twenty years. During this time, she had been habitually somewhat costive, but her general health had been good, with the exception of a feeling of weakness, caused by repeated loss of blood during the last two or three years. This patient had come under my care in the summer of 1852. The hæmorrhoidal tumours were then touched with the nitric acid; but I have preserved no notes of the particulars of the case at that time.

She again applied to me on the 5th of December, 1853. She then stated that she had derived temporary relief from her previous treatment, but that her symptoms had subsequently returned.

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\* This narcotic answered perfectly its intended purpose, and was not followed by any inconvenient symptoms.

Upon examination, a thick fold of hypertrophied mucous membrane, covered with cuticle from long exposure, surrounded the margin of the anus. Altogether, this formed a mass, the size of a pigeon's egg. Upon separating its different portions, the membrane internally was seen to be quite smooth, little vascular, and covered by a thickish muco-purulent secretion. A portion of the hypertrophied mucous membrane on each side was seized with a clamp, and removed with a sharp knife, bent laterally. The cut surfaces were then touched with the actual cautery. No narcotic was used in this instance.

Dec. 7th. She was suffering no pain, and appeared quite comfortable. There was no fever. Her circumstances required her to walk a short distance from her home, which she did without inconvenience.

Dec. 12th. There was a little local pain, accompanied by slight discharge, and some bearing down after a motion. No fever.

Dec. 28th. She had a little smarting, but had suffered no other pain since the last report.

The wounds were now all but healed, and the portions of hypertrophied mucous membrane not removed were daily diminishing in size.

Feb. 1st. She had felt no inconvenience since the last report. There were some small remains of the flaps of hypertrophied mucous membrane, which had been left on each side of the rectum, but these had assumed a healthy appearance. The discharge had ceased, and she felt herself quite well. In this instance, the period of recovery was unusually long, owing probably to the great thickening and alteration which had taken place in the structure of the protruded membrane.

CASE IX. J. W. came a second time under my care at King's College on the 30th of January, 1854. Six years previously, he found that he habitually lost a considerable quantity of blood when at stool, and for three or four years he had suffered from occasional prolapsus of the bowel. Soon after this symptom had appeared, he applied to me at the hospital; but there were then general considerations which induced me to recommend him not to have anything done to the piles. After this, he went to America, and returned in very good general health. The bleeding had now entirely subsided, but the inconvenience attending the prolapsus still continued.

Upon examination, an oval, red, solid tumour, irregular

upon its surface, and about the size of a large strawberry, was seen projecting from between some thickened and hypertrophied folds of mucous membrane. The parts presented little sensibility to the touch, and were not disposed to bleed. Whenever the tumour descended, it caused a dull heavy pain, occasionally, as he expressed it, of a "dragging" character.

On the 1st of February, the oval tumour was seized with a clamp, and removed. The cut surface was immediately touched with the actual cautery. Portions of the hypertrophied mucous membrane on each side were treated in the same way. Upon removing the clamp, the hæmorrhage had entirely ceased. The patient being deaf, and having his face averted during the operation, was not aware that the actual cautery had been applied. He complained of the pain caused by the removal of the tumours, but was not conscious of anything else. He walked home, and was desired to keep still during the remainder of the day.

Feb. 3rd. He said he was a great deal better. He experienced slight shooting pain now and then in the part, and felt a little sore when he walked. There was no fever; he felt quite well in himself; and his appetite was "first-rate". Some folds of the thickened mucous membrane around the anus, which were not removed, had assumed a healthy appearance.

Feb. 6th. He came regularly to the hospital as an outpatient, without inconvenience. His own account of himself was, that he was "getting all right"; "there was not much the matter now". He felt a little sore.

Feb. 8th. He had suffered some pain on account of the action of purgative medicine. There was now no discharge from the bowel, and no prolapse upon going to the water-closet. The folds of thickened mucous membrane which were left had become generally reduced in size, and the whole surface was assuming its natural healthy appearance. The wounds left, in consequence of the removal of the lower folds of thickened mucous membrane, were much smaller, but not yet healed.

Feb. 10th. In his own words, the patient felt "very well indeed": he "walked more than twenty miles" on the previous day, "to Hounslow and back". There was no pain, but slight itching. Upon examination, the little wounds were not quite healed, but looking quite healthy.

This mode of operating, of which I have selected the last as recent examples, I have now put in practice a consider-

able number of times in the treatment of hæmorrhoidal and other kinds of tumours. It possesses the great advantage of allowing the surgeon at once to remove any part that he may wish, enabling him at the same time completely to control the hæmorrhage. It also furnishes him with the means with certainty of preventing the occurrence of bleeding after the operation. The difficulty of accomplishing this, as is well known, has prevented surgeons from employing excision of late years for the cure of hæmorrhoids. M. Dupuytren, who advocated excision in these cases, on account of the pain and inconvenience attending the usual mode of operation, nevertheless confesses that hæmorrhage to a serious extent occurred in two-fifths of the cases upon which he operated, and in which no means had been taken to prevent subsequent bleeding. By the means now recommended, the great and only objection to the excision of hæmorrhoidal tumours is removed. In the cases upon which I have operated, I have found occasionally that some hæmorrhage has continued after the cut surface had been touched with the nitric acid; but in no case have I found the least inconvenience from this source where the actual cautery had been employed.

The advantages of this operation, as compared with others employed for the cure of hæmorrhoidal tumours, I conceive to be:—

1. That, where the application of the strong nitric acid alone is not sufficient, it is less painful than any other means equally efficacious.

2. That it is safer than the common operation now in general use.

3. That it requires less confinement, and the patient is much sooner convalescent, than after an operation with the ligature in the ordinary way.

Each of these points requires a brief consideration.

The pain caused by the application of the ligature to an hæmorrhoidal tumour may be divided into that which is felt during the operation, and that which is subsequently experienced. That produced during the operation is caused in a great measure by the forcible dragging upon the part during the time the ligature is being tightened. It is very difficult during the operation for the surgeon to get his hand on the same plane as the protruded bowel. The necessary consequence is, that the ligatured portion of mucous membrane is drawn out to a level with the hands. The inconvenience produced by this "dragging" upon the

intestine is altogether obviated by the operation now under consideration. The hæmorrhoid may be removed, if necessary, without even being protruded through the external opening. The pain and irritation caused by leaving the ligature upon the part to be removed is also dispensed with.

2. Although the ordinary operation for hæmorrhoidal tumours is reckoned safe, yet instances every now and then occur in which very severe and even fatal effects follow. Sir B. Brodie mentions having, in his own very large experience, had three fatal cases. I have myself had the opportunity of dissecting the parts after a fatal result in three other instances where the operation had been performed by the most able and cautious surgeons of the day. In two of these instances, secondary deposits had occurred in internal organs, and in the third there were symptoms of blood poisoning during life, and an open vein of some size was found after death, leading directly from the wound caused by the operation. When the base of a hæmorrhoidal tumour is transfixed with a needle, any large vein which it may happen to contain is necessarily liable to be wounded; and if, after this is done, each half of the tumour is included in a separate ligature, it is extremely likely that the sides of such a vessel would be held open. This circumstance, in the subsequent stages of the complaint, would, as far as it goes, directly favour the absorption into the circulation of the inflammatory products of the part. If, on the other hand, the whole of a hæmorrhoidal tumour is included in a ligature, there is a possibility that it may not be completely strangulated. The outer parts of the tumour may slough, while a languid and partial circulation is continued in a conical portion in its centre. The blood which there circulates through tissues on the verge of mortification, but which have not entirely lost their vitality, may become infected by the products of decomposition with which it comes in contact, and may thus, being again received into the circulation, become the source of general disorder in the system. This point is well illustrated by cases in which a ligature has been applied to portions of the tongue. It has been found that, as ulceration occurred in those parts directly subjected to pressure, the ligature has gradually become loosened. The circulation has then again in some measure been restored in the centre of the ligatured part, and this has been followed by symptoms of general constitutional disturbance.

After the application of a ligature to a large tumour in

any part of the body, such a partial restoration of circulation may take place. There is no distinct and immediate line of demarcation drawn between the living parts and the dead; and it may be left to accidental causes to determine how much of the tumour will recover its vitality, and how much of it will perish.

That a general contamination of the blood, from some cause or other, occurred in the three cases above referred to, that I had myself an opportunity of examining, I cannot doubt; and I believe that this source of danger would be entirely prevented by performing the operation in the manner which has now been described. The application of the actual cautery, while it prevents any blood flowing from the divided vessels, also prevents any vitiated fluids passing through them into the general circulation.

3. After the application of a ligature to a portion of mucous membrane, a process of ulceration is induced, and continues until the ligature separates. During this period, no process of repair can be commenced. No two actions, as Hunter has so well said, can go on in the same part at the same time. While the part is undergoing ulceration produced by the presence of the ligature, no attempt at reparation can take place. At the time the ligature falls off, the surgeon will often be surprised, if he happens to see the part, at the size of the wound which is left. By the process of ulceration, it is rendered much larger than it would have been by the simple removal of the hæmorrhoidal tumour.

After excision of the tumour, and the application of the actual cautery, no cause of irritation remains. The operation is complete, and the process of repair at once commences. The wounds, when seen on the following days, always appear smaller than the portions of mucous membrane which have been removed. The object of the application of the cautery, it is to be remembered, is not to destroy any depth of structure, which would be in itself a somewhat prolonged and painful operation, but simply to seal the divided vessels, which, in this operation, afford the only cause for anxiety. The superficial slough, which is made for this purpose, is very soon thrown off; a clear and definite line is at once drawn between the parts destroyed or removed, and those which it is intended to leave; and there is nothing to prevent the process of cicatrisation from commencing immediately.

It is not necessary in the operation now described to

include all the diseased or protruded membrane. The removal of some portions exerts its beneficial influence on that which is left. The same observations apply in this respect to the removal of a portion of mucous membrane by excision, as to its destruction by the application of the strong nitric acid. In both cases, the permanent benefit is produced during the process of cicatrisation.

I have only, in conclusion, to remark that, as the subject of piles generally is far too extensive to be considered in a single paper, I have purposely confined my observations at present to the surgical treatment of these affections.

13, Dover Street, Piccadilly, February 1854.