Thesis
for degree of M.D.

Haemorrhoids or Piles.

I hereby declare that this thesis has been composed by myself. Robert Jamieson

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The term haemorrhoid, derived from the Greek words αἷμα blood and ῥέω I flow, is objected to by some writers on the ground that the word implies a symptom which may or may not be present. The word at one time was used to designate a bleeding from any source whatsoever, by others it was used to denote any bleeding from the anus. It would perhaps have been better to have restricted its use to one of these meanings.

The commoner and better known word piles, coming from pila, a ball or globe, implies no symptoms are present, but it may also be objected to on the ground that a swelling about the rectum is by no means always a piles, but as a shorter word and one more frequently employed it may be preferred.

The disease is perhaps one of the commonest to which the human race is liable and was very early recognised by the Greek writers. Bodenhamer

has translated an interesting passage from Hippocrates which shows this.[1]

That it is the commonest affection to which the anal region is liable there can be little doubt. The statistics of St Marks Hospital, published by Mr. Allingham[2] & Messrs Cooper & Edwards[3] would seem to indicate that piles hold no second place in the relative frequency of rectal diseases. I am inclined to attribute this result to the fact that in many cases people who are subject to piles do not suffer from them to any great extent, and would not think of applying for treatment at an hospital. On the other hand fistula, which these statistics show to be the commonest rectal disease, can hardly be present without the patient knowing that something unusual has been going on about his anus, & causing him to apply at the hospital sooner than he would do in an ordinary case of piles. Hence these statistics are misleading, & Mr. Allingham appears to have very little faith in them for

1. Bodenhamer. Treatise on the haemorrhoidal diseases (New York.) p. 8.
2. Allingham. W. Diseases of Rectum. 4th edit. page 3.
3. Cooper & Edward. Disease of Rectum & Anus. p. 2. - 2nd edit.

he has omitted them altogether in his last edition. There can be little doubt that in private practice this condition is met with much more commonly than fistula, which these statistics would place first.

Patients in general are nevertheless very apt to attribute to piles any form of disease which causes them to have discomfort or uneasiness about the anus. As an instance of this a woman, who was convinced that her child one year old suffered from piles, as it had great pain apparently during defaecation, asked me to prescribe for it. On making an examination a very slight fissure of the anus was discovered but no appearance of piles whatsoever. In another case where I happened to be present, the patient being in hospital for some other trouble the opportunity was taken to have some external piles removed which she was said to be suffering from. The surgeon not having examined the case himself, it was not discovered until the patient was under the anaesthetic, or about to undergo

operation that condylomata. or not piles was the condition present. It is as well always to make a thorough examination of the part and not trust too much to patients statements.

The rectum in standard works on anatomy is divided for the purpose of description into three parts, the third or lowest part, in which internal piles are situated, ending at the orifice of the anus. The anus according to this view being only an aperture of no length. Mr Symington[1] however has pointed out that the usual description of this third part of the rectum is incorrect. Instead of curving backwards and downwards immediately at the coccyx it continues forwards or downwards for about an inch or more, lying on what he terms the "ano-coccygeal body", and then turns downwards or backwards at right angles to the upper part. This lower portion, about an inch long, he prefers to term the anal canal. This canal is surrounded by the internal sphincter or Levatores ani, and

1. Journal of anatomy & Physiol. vol XXIII p. 106-7.

at the orifice of the external sphincter. Internal haemorrhoids will probably be better described as originating in the first place in the anal canal, rather than in the rectum.

Too much importance cannot be attached to the arrangement of the veins of the rectum as one of the chief factors in the production of piles. The description in general text books of anatomy seem very incomplete, as also incorrect, according to the views of many surgeons and especially of the French school.

At the lower end of the anal canal is the commencement of the vein of the haemorrhoidal plexus. The blood from this plexus, according to the usual text books, is carried off by the superior middle and inferior haemorrhoidal vein, the middle and inferior haemorrhoidal going to join the internal iliac, the superior haemorrhoidal going to the inferior mesenteric, a branch of the portal system. "The haemorrhoidal plexus thus forms a very free communication between the portal and general venous systems." (Quain[1]) This free communication has however been

1. Quain's anatomy vol. 1 p. 524 9th edit.

disputed, and I think also disproved, especially by French surgeons as also by experiment by Mr Tripps[1] and others. It has been demonstrated that the haemorrhoidal plexus cannot be injected from the internal iliac veins, but can be easily injected from the inferia mesenteric, the injection not however passing on into the internal iliac trunks, thus proving that the communication is by no means free.

According to Durel[2] the venous plexuses from which the middle and inferia haemorrhoidal vein take origin are situated around and beneath the external sphincter respectively. The inferia haemorrhoidal being between the skin and the muscle. The plexus from which the superia haemorrhoidal takes origin being situated beneath the mucous membrane at the aperture of the bowel. The small radicles begin in dilatations about the size of wheat grains, arranged in a circular ring round the bowel. Kelsey[3] states that small veins proceed through the external sphincter, forming communications between the plexuses, but

1. Tripps. Diseases of Rectum & Anus p. 6. 2nd edit.
2. Archiv. général de Méd. 1879 Vol II. p. 641. Recherches sur la pathog. des hémorroides par Durel.
3. Kelsey. Diseases of Rectum & Anus p. 16.

this communication would be cut off on contraction of the sphincter, and in any case the experiments by injection show that the communication is very slight. The process of development is another reason pointed out by Mr. Ball[1] why we should not expect much communication between the systems. In this connection he also points out the uselessness of applying leeches to the perineum for congestion of the portal system.

From the small dilatations round the bowel the trunks of the superior haemorrhoidal veins run up longitudinally, beneath the mucous membrane, in the submucous tissue, which is very loose for about three inches, and then perforate the muscular coats of the bowel, going ultimately to join the inferior mesenteric. The late Professor Cornil pointed out that these perforations are destitute of any fibrous lining, and hence the veins are liable to be compressed and the flow of blood obstructed on contraction of the bowel.

Without going the length of saying, as some French surgeons do, that as a result of this

1 Ball The Rectum & Anus p. 219.

arrangement varicose veins are always present in the lower part of the bowel, it is very evident that a very slight interference with the portal circulation will bring about their development. More especially will this be granted when it is remembered that no valves are present to prevent the effects of the pressure of gravity, caused by the upright posture, on the lower veins of the rectum.

That this upright posture has much to do with the production of piles is borne out by the fact,[1] that monkeys are the only members of the lower animals which suffer frequently from piles. Over fed Ladies Dogs do so occasionally, but the disease is very rare indeed in horses although many of them are over fed and fairly exercised. Many diseases of the pelvic, abdominal or thoracic viscera interfere with, or indirectly cause pressure to be exerted on the portal circulation, and if this is not taken into account in the treatment of piles, no results, or perhaps in the case of operative procedure undesirable ones will follow. By far the commonest cause however is a mass of hardened

1 I have this on the authority of Dr. McCall of the Glasgow Veterinary College.

feces lying in the bowel. This acts both by it local pressure on the haemorrhoidal veins and also by causing straining while at stool. When straining is induced the diaphragm is fixed, and the abdominal muscles contract giving rise to pressure on the abdominal veins, and through them to pressure on the veins of the rectum. Along with this congested state of the veins direct irritation has an important share in the production of piles, or at least in producing a state of inflamation, and in this way leading to their enlargement. Hardened feces, ~~being~~ being hard & rough, and allowing the parts to get into a dirty state, are the commonest causes of this irritation. This is a most frequent cause in people who habitually eat too much animal food and use too much alcohol or other stimulant. It is well known how easily inflammation is started in the tissues of a man whose body is saturated with alcohol, and it can readily be understood how a plethoric state of the portal veins, together with this condition of the blood & tissues gives rise to dilatation of the

terminal branches of the haemorrhoidal veins, and strongly predisposes to inflamation occuring in and around them.

The structure of either internal or external piles varies accordingly as arteries and connective tissue are more or less developed in them. This difference in structure and appearance has lead to various names being applied to the different kind of pile. In the case of external piles various names have been given to the different varieties, no two surgeons hardly describe them alike. I have noted down a few of the names, thrombotic, oedematous, cutaneous, hypertrophied, sanguineous, venous tumours, compound external. &c. These names are hardly necessary, and seem more to indicate a condition rather than any radical difference in their structure. In the thrombotic variety the blood, which has coagulated to form a clot, when the swelling occurs suddenly, is usually supposed to be due to an extravasation into the surrounding cellular tissue. Mr. Ball[1] of Dublin however denies that this

1. Ball ~~the~~ on the anus and rectum p. 226

extravasation ever takes place. He has shown in a number of cases that, when a clot is turned out of a cavity it can be demonstrated that the cavity is lined with epithelium, if a piece of the wall lining is stained with nitrate of silver and placed under the microscope. In his opinion the clot is always due to phlebitis and thrombosis occurring in a dilated vein. Mr Ball[1] however admits that haemorrhage sometimes takes place from the surface of an external pile, and Professor Buchanan has stated in his clinical class that haemorrhage sometimes occurs from the bowel, although no internal piles are present, it is highly probable that rupture & extravasation into the substance of the pile does at times take place.

One form of internal haemorrhoid has usually more arterial development than the external. This is the variety described by Messrs Allingham[2] as the arterial. One artery it is stated, often as large as the radial at the wrist, enters it

[1] Ball. The Rectum & Anus. p. [illegible]

[2] Allingham. Diseases of Rectum [illegible]

at the upper part. It contains many small arteries and veins and feels firm to the touch, and cannot be emptied by pressure. This form one would have expected to have developed slowly, as the result of inflammatory attacks occurring in either of the other two forms of internal piles, the capillary or the venous, but Messrs Allingham are of opinion that it is a distinct variety and often develops very rapidly.

Haemorrhage is often a common symptom in all three varieties of internal piles. The blood is arterial in character and is generally supposed to come from a ruptured artery. Mr Cripps[a] however is of a different opinion, he says "with all due deference to such eminent authorities as Brodie and Van Buren, I am of opinion that it never comes from the arteries, but that the jet is caused by it being forced as a regurgitant stream through a small rupture in the vein by the powerful pressure of the abdominal muscles." It is probable that the blood seldom comes from the arteries directly, but in a Tumour of this nature it is

[a] Cripps' Diseases of Rectum & Anus. p. 70. 2nd edit

possible that the arteries may sometimes have a direct communication with the kind of cavernous structure, which is generally found in the interior of a pile.

The mucous membrane and the skin around the anus are both freely supplied with nerves, and as these nerves communicate with others reflex pains ~~are~~ other parts are very common. The skin is mainly supplied with twigs from the perineal and haemorrhoidal branches of the pudic nerve, hence the frequency with which any irritation or operation about the anus causes bladder troubles. Both these nerves communicate with the inferior pudendal branch of the small sciatic, and in this way pain in the back of the thighs is a common symptom. The part between the coccyx and the anus is supplied by the fourth sacral. These nerves being all derived from the sacral plexus, it is evident, that reflex pains may be induced in the parts supplied by this plexus. Cases of this kind have been recorded by Hilton[1] & others.

1. Rest & Pain p. 203.

The lower part of the rectum also receives its nervous supply from the haemorrhoidal plexus of nerves of the sympathetic system. This plexus surrounds the lower part of the bowel and is formed by branches from the back part of the pelvic plexus, and from the superior haemorrhoidal nerves descending with the artery from the inferior mesenteric plexus. Both the inferior mesenteric, and the pelvic plexus through the hypogastric, are derived from the aortic, which comes from the solar plexus, and in this way the nerves of the rectum are connected with the solar plexus and semilunar ganglia.

Perhaps this connection may be a possible explanation of the peculiar shuddering kind of breathing which, as Professor Buchanan has often pointed out to the students of his clinique, is characteristic of operations on the lower end of the bowel. Professor M'Kendrick states[1], that irritation of the sympathetic in the abdomen is to reflex

[1] Outlines of Physiology - p. 382.

through the pneumogastric nerves on the heart, causing a slowing of that organ, and ultimately stopping it altogether, if the irritation is strong enough. It may perhaps be possible that irritation of the sympathetic plexuses in the rectum, which is much more freely supplied with nerves than the bowel higher up, acts reflexly through the laryngeal branches of the pneumogastrics, producing the characteristic laryngeal symptoms.

External piles as a rule give rise to no symptoms until they become inflamed. The following case may be taken as illustrating the symptoms which occur when this takes place. J. — K. - aet. 30 years, general labourer, a very powerful and muscular man, generally very temperate except perhaps at very rare intervals. His general health was very good until a month or two before this attack, when his bowels became rather constipated. Since this happened he had not been feeling quite so well. The day before I saw him he had been seated all day exposed to wet as

cold for about twelve hours. Pain and swelling began during the evening, and were now so severe that he was confined to his bed, and unable to sit or stand erect. He had not been able to sleep during the night, and was feeling generally unwell. The temperature was 101., tongue furred, and bowels confined, but a sensation present in the rectum, as if there was something that ought to be got rid of.

On examination a swelling about the size of a walnut, red, very tense and tender to the touch, was found to be present at the margin of the anus. The integument around was also slightly swollen.

As to the treatment adopted. The buttocks were raised and hot cloths applied, after the swelling had been smeared well over with belladonna and glycerine. As this did not give relief morphia suppositories, each containing ¼gr of morphia, were directed to be used. After two of these had been inserted, relief from pain was obtained. Internally, as the liver

seemed slightly congested five grains of calomel, followed in a few hours by about three drachms of sulphate of magnesia in hot water, was prescribed. For a few days his diet was restricted to slops, and his bowels kept open by saline aperients. The swelling quickly subsided and he was afterwards directed to keep his bowels regular with cascara sagrada, and wash the anus night and morning, and afterwards bathe it with a cold infusion of oak bark. No further trouble has been experienced in this case. The above symptoms are common upon the an attack of the piles. These attacks vary very much in intensity, but are often, as in this case, so severe as to lay up the strongest of men. When a patient gets about again if he does not attend to the state of his bowels, regulate his diet, and more especially keep the parts about the anus perfectly clean, other attacks generally follow. If however, when the first symptoms of an attack are felt coming on, these precautions are

observed, the attack may be frequently aborted, or at least much mitigated.

If piles are giving rise to frequent trouble they should be removed. A hypodermic injection of cocaine is generally sufficient for this purpose, unless the piles are numerous, large, or inflamed. Taking hold of the pile with a pair of toothed forceps, about two thirds of it may be snipped off, in a direction radiating from the anus, with the scissors curved on the flat. Some men however prefer to use the knife. If more skin than this is taken away troublesome contraction of the anus may be induced, and will require dilatation afterwards.

Bleeding as a rule is very slight, any small artery spouting may be twisted. Usually the wound is allowed to granulate, but Mr Ball[1] advises the edges to be brought together with sutures, as in his opinion healing is much more rapid when this is done. As external piles are usually complicated with internal, and as they are usually removed at

1 Ball. The Rectum and Anus p. 232.

the same time, this is not of much importance.

When a fistula is situated at the margin of the anus, and is continuous with an internal fistula, Mr Cripps[1] is in the habit of dissecting off the integument, cutting a deep groove, and including the external along with the internal fistula in the ligature.

Before treating any case of external fistula, and especially before removing them, it must be ascertained that no internal fistulæ are also present for if these are overlooked no benefit will result.

Very often the first symptom complained of when internal fistulæ are present, is haemorrhage.

Sometimes sensations of fullness, and itching, or burning about the rectum, or reflex pains in any of the parts already mentioned are the first manifestations; but very often patients state that until their fistulæ ceased to bleed they had no trouble or discomfort whatever. Generally the discharge is limited to a slight streaking of the faeces, or at most to a slight drip from the anus

[1] Cripps. Diseases of the Rectum and Anus 2nd edit p. 67

after defecation. In these cases are met with where a pint or two of blood escapes at once, but this is not usual.

The following is the history of such a case.

I.— C. an unmarried woman, aet. 28, had been suffering for some months from symptoms of anaemia, with enlarged glands in the neck and arm pits. Bowels very costive, and pain complained of over the sacrum. At intervals during the day she had passed, what I estimated about a quart of blood from the anus, and for some days previously a small amount had accompanied each motion. A small pile of the capillary variety was apparently the source of the bleeding. The recumbent posture was advised for a few days, and an injection of cold water with sulphate of iron added was directed to be used. Internally a mixture containing iron and arsenic was prescribed, and also a mild laxative. The haemorrhage only recurred slightly two or three times, and in a few weeks the anaemia and enlarged glands disappeared. There was no return of the haemorrhage while

afterwards I lost sight of her
the patient remains in the same house,
Probably in this case the rather profuse
haemorrhage was due to the previous watery
condition of the blood.
Small haemorrhages when constantly occurring give rise
after a time to pallor of countenance and all
the other symptoms of anaemia, so that it is
often as well to inquire if there has been any
bleeding from the anus, when an anaemic patient
presents himself, or more commonly herself, as
women are more apt than men to overlook any
such haemorrhage.
The capillary variety of piles, as a rule, gives rise
to no other symptoms, being generally sessile;
but when large venous tumours are present
protrusion commonly takes place. This protrusion is
apt to get worse as time goes on. At first they
only protrude during defecation, & retract spontaneously
This may be regarded as piles in the first stage
of prolapse. In the second stage they remain down
until replaced. When the third stage is reached prolapse
may take place at any time on making the
least exertion. It is in these later stages

that mucus discharge is most common, and causes annoyance to the patient by keeping the parts about the anus in a moist condition, and stains the linen. When this is the case piles are easily diagnosed, but when not so liable to prolapse they are less easily detected.

Simply introducing the finger into the bowel is often but of much service, unless to men who have had much practice, as piles, while still within the bowel, are generally in a collapsed and flaccid condition.

When an examination has to be made, the best plan is to inject about a pint of warm water and clear out the rectum. The patient should then be placed on a couch, lying on his side with the legs well drawn up. Good light is necessary for the examination. By getting the patient to strain downwards and at the same time separating the margins of the anus with the tips of the fingers, in a little time a portion of the pile may be brought into view. It may require some time and trouble for this to be accomplished.

When piles cannot be detected in this way an

speculum can be employed to examine the rectum. Numerous forms of speculæ have been constructed for this purpose, but often there is no satisfaction, as they cause the patient to strain, and as a rule very little can be seen unless an anæsthetic be given. If this is required it is better to dilate the sphincter, when piles can be easily diagnosed if present. They are generally purplish in color, smooth and shining, and have been compared to a mulberry. When however prolapse has been frequently taking place they are rougher and often excoriated, coming more to resemble external piles in appearance.

A thorough examination with the finger in the bowel should also be made at the same time, as piles are often only secondary to some other disease, such as fistula, stricture of the rectum &c. When this is the case it will modify the treatment considerably.

Before treating any case of piles however, the cause should first of all be ascertained and the proper treatment adopted for its removal, if this be

possible. When this can be accomplished local applications will assuredly be successful in alleviating the symptoms and in some cases affecting a permanent cure where the piles are not of long standing, and more especially when prolapse is not of frequent occurrence.
In the majority of cases some Cathartic medicine is required to produce a daily soft motion, and prevent the accumulation of hard masses of feces in the bowel. For this purpose Sir B. Brodie's prescription[1] of an infusion of senna and precipitated sulphur is very useful. Fredericshalle, or some of the other aperient waters are often very serviceable, more especially in hepatic congestion. Cascara Sagrada is another favourite remedy. With some people it seems to cause pain and griping in the abdomen. Aloes is an old remedy, recommended by some, condemned by others. I have known cases where its action was always productive of more pain and trouble in the rectum, on the other hand in some cases the ordinary aloes and iron pill of the Pharmacopoeia seems to be productive

1. Brodie's Works vol. III p. 563.

of more benefit than any other drug. Often it seems a case of what suits one particular patient. In a case where I prescribed oleum ricini, after parturition, the patient who had suffered from piles for some time previously nearly fainted. At the next confinement, not thinking the particular form of medicine had anything to do with the fainting I again prescribed the same drug, with the result that the patient fainted entirely, and considerably frightened the nurse. There was no appearance of fissure in this case, and the piles were not very troublesome at other times. In later confinements some saline aperient has been employed with no evil result. Perhaps in this case some nervous element was present as the patient had always a dread of castor oil.

In addition to keeping the bowels free some local remedy is generally applied. The compound gall ointment, or the subsulphate of iron, (10 gr. to the ounce) are favourite remedies. Ointments are better applied by means of an ointment

introduces, as frequently it is only the integument gets the benefit if applied by means of the patients finger.

The injection of about half a pint of cold water into the bowels is generally of greater service than any other application. It is better to use this injection after the bowels have moved and not before as recommended by Sir B. Brodie[1]. When used in this way the addition of hamamelis, or some other astringent will often be of advantage.

Regular exercise should also be taken by ~~the~~ patients suffering from piles. For this purpose riding is often recommended. It is doubtful if this exercise is beneficial. I have personally noticed, that frequently at the beginning of winter, when beginning to use this means of locomotion much more than in summer, piles are apt to give trouble, but that in a short time, probably as one gets into better condition, the piles disappear and possibly benefit then results.

Inflamed piles require more soothing treatment

1. Sir B. Brodie's Works. Vol. iii p. 563.

generally of the same kind as the external. They are however very apt to become prolapsed. When this occurs if they cannot be replaced, or if they will not remain inside the bowel, as is frequently the case, they are better left alone. The best plan however is to have them removed, if the patient will consent to it, and no evil results will follow, although some surgeons object to operate when they are inflamed.

The following is the history of a case where prolapse and strangulation had been going on for 14 days before their removal.

J.—— S. Sailor, aet. 64. General health otherwise good but looked about 10 years older than his age. Internal organs healthy. Had been troubled with piles for about ten years. Bleeding took place now and then but not regularly. Prolapse occurred whenever the bowels moved and at other times also on exertion, and required replacement by the finger. About 14 days before I saw him prolapse of one large pile had taken place and had not been replaced at the time. On attempting afterwards to return

it, this could not be accomplished and pain and swelling of the part had become very severe. The surface was in a ~~sloughy~~ slohgy condition, but gangrene of the whole mass had not become established, probably because one pile only had become prolapsed. The bowels were veray constipated and could not be moved without great pain. The enlarged mass and three other piles were removed ~~by~~ Mr. Edwards, after ligature of their bases according to the method devised by the late Mr. Salmon. Three small arteries required tying, probably from the parts being more vascular than usual. Several external inflamed hypertrophies were removed at the same time. The usual treatment was adopted and the patient was quite well and effectually cured by the end of three weeks.

If prolapsed piles are left unreduced gangrene is liable to set in from constriction by the sphincter. If this has taken place throughout the whole pile, dusting with iodoform and the application of warm charcoal poultrees is the treatment

generally adopted until the sloughs separate. Mr. Ball describes a case of this kind where the patient obtained great relief from the subcutaneous division of the sphincter by a tenotome.[1]

As already mentioned mild cases of piles may be cured by palliative measures, but for severe cases operative treatment of some kind is required before permanent relief can be obtained. Frequent attacks of inflammation, or constant haemorrhage giving rise to anaemia are indications for radical treatment. As Messrs. Cooper and Edwards[2] have pointed out in their publication it may be practically said, that piles which have reached the second stage of prolapse cannot otherwise be cured.

Formerly, it used to be thought dangerous to stop the haemorrhage from piles but this is seldom the case. Mr. Cooper mentions that he has known cases where apoplexy has followed operation, and undoubtedly, in stout old plethoric patients it would often be right not to

1. Ball. The Rectum and Anus p. 246.
2. Cooper and Edwards. Diseases of Rectum & Anus p. 81 2nd edit.

interfere. Mr. Cripps[1] is of a different opinion and would operate, and take measures to reduce the patients plethoric condition; but as this latter part of it is generally the most difficult to accomplish, it is advisable in these cases to effect this first and operate afterwards if necessary.

For the radical cure of haemorrhoids many different measures have been devised.

Dilatation of the Sphincters has been much practised in France, more especially by the late Professor Vernueil[2] as the method of curing severe cases of internal haemorrhoids.

Most men agree that this method is useless to effect a cure, but will relieve for the time being, where the bowels are loaded and the sphincters in a state of spasm. There is no doubt however that it is of the very greatest service as an aid to diagnosis and in facilitating any further operative procedure.

It is usually performed by inserting the thumbs one after the other into the anus and grasping

[1] Cripps Diseases of Rectum & Anus. p. 77 2nd edn.

[2] Medical Times July. 19. 1884. Vernueil Treatment of dilatation. Gazette des Hopitaux

the tuber ischii with the other fingers. By gradually and firmly separating the thumbs in a few minutes the sphincters give way, and are thoroughly stretched. Some men prefer to use the forefingers in the anus, but more command can be obtained by using the thumbs. It is of importance that the dilatation should be kept up for at least two minutes, and should include the internal as well as the external sphincter. Messrs Allingham[1] are in the habit of dilating in the antero-posterior direction in addition to the transverse.

The application of the ligature is probably the oldest method of cure dating as it does from the time of Hippocrates. None of the other operations have ever been so popular and undoubtedly it is the safest and best means that can be employed in the great majority of cases.

The operation as devised by the late W. Salmon has now been practised at St Marks Hospital

[1] Allingham. Diseases of Rectum. 6th edit. p. [illegible]

for the last sixty years. Salmon's hooks and scissors are generally employed in that institution.

The day before the operation the bowels must be well cleared out by a good strong purgative, such as a couple of colocynth and hyoscyamus pills. Next morning an enema should be administered an hour or two before the operation, and the nurse should make a point of seeing that it all comes away again.

In operating, the patient may be placed in either the lateral or the lithotomy position. The lateral position is the one used at St Marks but the lithotomy position is to be preferred as it gives better light and the parts are more accessible if bleeding or anything unusual occurs.

After dilating the sphincter in the manner already described the piles can be readily dealt with, although not prolapsed prior to the beginning of the operation.

Seizing one of the piles with the pile hook or forceps and slightly drawing it away from its base, the scissors are applied to the line where the skin meets the mucous membrane. This

incision should be made parallel to the long axis of the bowel and should be carried up on each side of the pile so as to leave only a narrow base. There is no danger of haemorrhage in making the incision as the main vessels enter the pile at the upper part and run down in the long axis of the bowel. Getting an assistant now to hold the hook and pull the pile slightly out from its [illegible], a strong, plaited, well waxed, silk, ligature is applied in the groove and tied as firmly and as high up on the mucous membrane as possible. Each pile should be treated in this manner beginning with the lowest as bleeding may otherwise obscure them and they may be overlooked. Before returning the piles a portion of them should be cut off, if they are at all large, otherwise pain and straining ~~may~~ be induced if a bulky mass is returned to the rectum. A good stump must however be left so that there may be no danger of haemorrhage from the ligature slipping. After the piles are returned the ligatures are

cut short about three inches being left protruding from the anus.

Any external hypertrophies may now be removed in the manner already described. After washing the parts with an antiseptic solution a little cotton wool, covered with carbolated ointment, should be inserted into the rectum. Too much wool should not be inserted or pain and straining will result. Beside the anus a large pad of cotton wool and a T bandage are now applied, the ends of the bandage being firmly tied over the anus as firm pressure helps to prevent pain, and stops any venous haemorrhage.

Pain is not more common after ligature than any of the other operations, if the sphincters have been thoroughly dilated, and care taken that no cutaneous tissue is included in the ligature. If retention of urine occurs hot cloths should be applied over the pubis, and the T bandage slackened, as sometimes it is due to pressure of the bandage on the perineum. If this is not successful a soft catheter must

be passed. Generally in a few days the condition passes off.

Another important point is to tie the piles very tightly so that the circulation is at once completely stopped. If this is not done the ligature may subsequently slip and bleeding take place.

Haemorrhage during the operation is easily controlled, any bleeding point that is specially noticed being ligatured. Some amount of venous haemorrhage takes place but is generally stopped by the pad and bandage.

Recurrent haemorrhage may take place a few hours after the operation, generally from some small vessel that has not bled at the time or has been overlooked. The blood may collect in the bowel to a considerable extent without showing externally. But this is not so common now as apparently it was before dilatation was practised. If a slight oozing is taking place pressure with the hand on the pad may be sufficient to stop it, but if it still persists the pad must be removed. The fingers

of both hands should now be introduced into the rectum and the bowel expanded, so as to allow the clotted blood to come away. This is easily effected as the sphincter has been previously paralysed. After syringing the part if a bleeding point is seen it may be secured, but this is very seldom the case, and it is better to plug at once than spend much time in searching for a bleeding artery. A vulcanite rectal tube is the most satisfactory means of plugging. After its introduction if bleeding still continues the syringe may be used and afterwards cotton wool, impregnated with some styptic, should be firmly packed all round. The advantage of the tube over ordinary cotton wool packed between two sponges is, that flakes and even liquid faeces do not accumulate in the bowel and annoy the patient. An India rubber tampon has been devised by Mr G. Benson for checking haemorrhage, but the rectal tube is the most reliable, as rubber apparatus are apt to get out of order. The plug should be left in for twenty four to

forty eight hours and then very gently removed. Secondary haemorrhage is very rare after ligature. Messrs Allingham[1] describe a case where this occured in a debilitated subject after the seventh day ~~and had to~~ in which the ligature had to be inserted twice, and the second time was left in for nineteen days before it was thought safe to remove it.

After the operation the patient should be kept quiet and in an hour or two a pill containing one grain of opium administered. This should be repeated in a few hours and freedom from pain and a good nights rest are by this means ensured. For the next few days some preparation of opium should be given night and morning, and the diet kept light. About the fourth evening two good strong aperient pills should be administered followed in the morning by an aperient water. An enema of olive oil helps to empty the bowel, as often some difficulty is experienced from the effect of the opium and the dread of the patient. It is as well to let the patient know

1. Allingham - Diseases of Rectum p. 207 6th edit.

that some pain may be experienced and blood may come away when the bowels move. Afterwards some of the mild laxatives already mentioned may be employed to procure a daily soft motion.

The pad should be removed daily, and the surface syringed with an antiseptic solution. The ligatures generally come away after the end of the first week, some surgeons recommend pulling them slightly every day, as this causes them to separate sooner, but this causes unnecessary pain to the patient and is of very little advantage. After they have come away the finger should be passed daily into the rectum to ensure that no contraction is taking place. Where this has not been done stricture sometimes follows, and requires dilatation by means of bougies, or the surgeons finger passed daily for about a fortnight. The late Sir George McLeod made the patient use a common tallow candle; an article easily procured and which answers the purpose very well, and seems less formidable to the patient.

If the surfaces are slow in healing a suitable ointment should be applied, If this does not promote healing and the wound degenerates into a true rectal

ulcer the sphincter must be again dilated to set the parts at rest and allow cicatrization to take place.

After the ligatures come away the patient may be allowed to rise and recline on a couch, but no active exercise indulged in until the bowel is perfectly healed.

In regard to the satisfactory nature of the operation the statistics of St Marks show a death rate of only one in 670 cases. Messers. Allingham in 4000 operations both hospital and private have had only five fatal results, and many eminent surgeons have never had a fatal case. In fact it may be safely said that in the great majority of cases of internal piles, there is no other operation which is so safe or is more satisfactory in its results.

The application of nitric acid has been largely used for the destruction of piles. Its use is now restricted to small superficial haemorrhoids, being quite unsuitable for the larger forms.

The application should be made with a glass

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rod or piece of wood, and the part immediately washed with a solution of carbonate of soda. It destroys the superficial vessels and converts the pile into a cicatrix. An assistant is required to expose the pile after dilatation of the sphincter as it is very important not to allow any of the acid to touch the skin, otherwise great pain will follow.

The injection of various substances into the interior of the pile by means of a hypodermic syringe has been practised much more commonly in America than in this country. Ferrous sulphate, Tinct. Ferri perchlor. Caustic potash. &c have been used, but carbolic acid is the substance most commonly employed. It is used in varying strengths dissolved in glycerine. Kelsey[1] of New York greatly advocates this method of treatment. He used the acid in varying strengths, from 1 in 10 to nearly pure acid. In this country Dr Edwards has been the chief exponent of this treatment, and has published the results of over 100 cases.[2]

1 Kelsey. Diseases of Rectum & Anus. 1883 p. 104.

2 Geo. T. Edwards. Diseases of Rectum & Anus. p. 90 2nd edit.

The solution employed by him is carbolic acid gr. xii Glycerine and water. aa 3i. In severe cases he uses carbolic acid gr. xxiv. Two to five minims of this solution are slowly injected into the centre of each pile in turn. The piles are then anointed with vaseline and immediately returned as swelling very quickly sets in. If they should come down subsequently the patient must at once replace them with his finger. In Mr Edwards opinion it is quite safe for the patient to go about his usual business when this treatment is going on, but must now consider it wiser to maintain the horizontal posture for a day or two after the injection. The injection may have to be repeated in a week or two although one is often sufficient. Kelsey[1] subsequently modified his views very considerably as to the value of this form of treatment. and Mr Edwards results are not very striking. It to me appears to be limited to piles in which there is not much new growth of tissue, or where the patient objects to other operative interference.

[1] British Med. Journal. Oct. 13. 1894.

Amongst other methods of curing piles the application of the cautery in various ways has been employed. Thrusting the actual cautery into the midst of the pile was an old way of treatment, but Mr Reeves advocates the use of Paquelin's cautery in this manner, as a new method, under the name of 'Igni-puncture' No advantage seems to be gained by this method, and abscess and non-destruction of the piles has been a frequent result.

The use of a clamp in conjunction with the cautery is a distinct advantage, for here the pile is first removed before applying the cautery, and no punctured wound is made.

The introduction of the operation is in great measure due to the late Mr. Henry Smith[2] and to Mr. H. Lee[3] whose contributions to the Lancet first brought the operation into popular favour. It was however devised by Mr. Brassack of Dublin. Mr Smith's clamp has the advantage of having the blades parallel

1. Lancet Feb. 17. 1864, Immediate cure of Piles. &c.
2. "Lettsomian Lectures on Surgery. 1865." &c. Lancet. 1878 April 20th
3. Lancet. April. 18th 1874. On the removal of haemorrhoids [illegible]

which gives a better hold on the whole of the pile, and prevents any part from slipping. I have often noticed surgeons have a difficulty in adjusting it exactly to the part they wish to remove, and I have also seen it slip after the pile has been cut off, before the application of the cautery. This can be guarded against by not cutting too close to the clamps.
Secondary haemorrhage and obstruction is more liable to follow this method as is generally the case wherever the cautery is employed. Nevertheless many surgeons prefer it to any of the other operations.
Chassaignac's écraseur has been employed for many years in the removal of piles. Nélaton was one of its greatest supporters. Although not so efficient for this purpose as one of the modern crushers it does not merit the terms "barbarous and unsurgical" applied to it by Messrs Allingham.[2]
The objections to its use are that haemorrhage is liable to follow, too little or too much

1. Medic. chir. review (British & Foreign) vol. 2 [illegible]
2. Allingham. Diseases of Rectum [illegible]

tissue may be removed by its action, and stricture may be produced.

Some of these objections may be partly due to the way in which it is used. I have seen an eminent surgeon, after tightening the chain by a few movements of the handle, proceed to apply what might be termed torsion to the file and simply twist it off. When used in this way no one can wonder that such results follow.

The application of a special crusher, devised by Mr. Benham, was advocated in the Lancet[1] by Mr. Pollock. Mr. Allingham jr. not being satisfied with Mr. Pollocks instrument has also devised a crusher which has the advantage of not being so cumberome an instrument to use, and can be more easily adjusted to the file. Mr. Allingham specially recommends[2] anyone who uses his instrument to see that the sliding bar is rounded, otherwise, if a sharp edge is left, the files may be cut off instead of being crushed. This instrument is said to prevent

1 Lancet. July. 3. 1880. Treatment of Haemorrhoids by crushing
2. Allingham. Diseases of Rectum p. 152 6th ed.

any danger of haemorrhage, but I have been informed by Mr. Edwards, who has frequently used it, that this is not to be relied on as in several instances bleeding has followed its use. In Mr. Edwards opinion the only advantage in crushing appears to be that the wound heals quicker and patients do not require to remain in bed so long. It would certainly not be advisable to use this instrument where haemorrhage from any reason might be feared, or where skilled attendance is not close at hand.

Excision of piles was formerly performed by many eminent surgeons, but the operation was one of much danger and fatal results sometimes ensued. At the present day surgeons have many advantages which lessen the risks, amongst others, better means of controlling haemorrhage, the use of anaesthetics, and the practice of dilating the sphincters rendering the piles much more easily got at. Even with all these advantages excising piles separately in the old way is not frequently attempted, as there are so many other safer ways

of removing them.

Mr. Whitehead however has introduced an entirely new operation[1], having for its object the total removal of the whole pile area. He extends that each radicle of the entire plexus of veins associated with the superior haemorrhoidal is similarly if not equally affected, and hence his reason for the removal of the entire area.

Although each radicle is subject to the same influence it by no means follows that all are in a diseased state and equally requiring removal. Even if it is correct in theory it is certainly not required in practice. I have never seen the operation performed but as described by Mr Whitehead it essentially consists in incising the mucous membrane all round at its junction with the skin, dissecting it up from the underlying structures, dividing it across transverse above the piles, twisting the arteries as they are cut, and then bringing down the divided margins of mucous membrane and stitching it to the line of incision at

1. British. Med. Journal. 1887. vol. 1. p. 449. Three hundred cases treated by excision.

margin of the anus.
Many objections are urged apparently with much reason against this operation. It appears to be difficult to perform, takes up a good deal of time, and haemorrhage [illegible] greater than in other modes of operating. A ring of ulceration may form round the bowel from the stitches giving way and the mucous membrane retracting. Altogether it seems to be unnecessarily severe and not required in the great majority of cases. Mr. Allingham jr. has devised an instrument for facilitating the operation by keeping the mucous membrane stretched and tense. He would however very rarely perform the operation as he has personally so many objections to it as any one.
Piles are often complicated by the presence of some other rectal disease such as fissure fistula &c. and when this is the case Whitehead's operation is unsuitable. The history of a case will often point to something more than piles being present. But I have seen a case of blind internal fistula only diagnosed when the piles were being ligatured. This is probably the disease most likely to be

1. Allingham Diseases of the Rectum p. 164. 6th edit.

to be overlooked, but it shows the necessity, already pointed out, of making a proper examination in every case, as it is of importance that these rectal affections should be treated at the same time.