

## THE CAUSES AND TREATMENT OF PRURITUS ANI.

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In various degrees pruritus ani is a very common complaint. It may only be a slight itching lasting a few days and then passing off, or easily amenable to treatment, or it may be a most serious condition, coming on in paroxysms which drive the patient nearly mad and prevent him from obtaining any proper sleep, often for weeks at a time.

The condition seems to be slightly commoner in men than in women. It occasionally occurs in children, but is uncommon in young people. I was recently consulted about a child, aged five, with very bad paroxysmal pruritus ani, but such cases are rare. It most often occurs in otherwise healthy individuals in the prime of life and frequently in those who lead a sedentary life.

The sufferer complains of intense itching beginning just at the margin of the anus. The itching may be localised to quite a small area, or may spread to all the perianal skin. The most intense irritation is generally just at the opening of the anus and along the median raphe in front and behind. It is usually much worse at night, the itching coming on as soon as the patient has become warm in bed and is just about to go to sleep. The patient invariably scratches himself to try and stop the itching, but only the most temporary relief results. Many patients complain that their lives are rendered quite miserable by this complaint, and they are willing to undergo any form of treatment that will give them freedom from the itching.

The examination of a case of pruritus ani generally reveals a somewhat wrinkled or corrugated condition of the skin at the anal margin. In cases of old standing there is a warty condition of this skin, and on close examination it can be seen to be much thickened, the thickening chiefly affecting the horny layer of the dermis. The surface of the skin usually has a moist, wash-leathery appearance, the tops of the ridges especially being sometimes quite white. There is generally a certain amount of redness of the surrounding skin, and well-marked abrasions, which have resulted from scratching, can usually be seen. Much, if not all, of the appearance seen around the anus in old cases of pruritus is to be attributed to the scratching which has resulted from the irritation rather than to any result of the condition itself.

I think most surgeons will agree with me that the thickening of the skin, the rugæ and eczema, fissures and other abnormal conditions of the skin around the anal orifice, which are so frequently seen associated with pruritus ani, are purely secondary results of scratching, and, beyond the fact that they tend to accentuate the itching and interfere with treatment, have no causal relationship to it.

I am convinced that the exciting cause of pruritus is a local one in all cases, and that constitutional states have merely a predisposing or secondary influence in causing the itching. It must be admitted that in some cases the most careful search fails to discover any local cause; but this is because our knowledge is insufficient to enable us to discover it, or, perhaps, to recognise it when seen. I believe the condition always arises locally, but in a case of old-standing definite disease of the nerve endings is present owing to the effects of constant scratching.

### Ætiology.

Pruritus is very likely to occur in persons of plethoric type, who habitually indulge in excessive eating and drinking, and it is an undoubted fact that when such patients are put upon a strict regimen the condition is always improved, or, in other and simpler words, there is a close association between pruritus and dyspepsia.

Among the constitutional conditions which are frequently ascribed as the cause of pruritus must be mentioned gout, rheumatism, nephritis, diabetes, and disease of the liver. With regard to gout and rheumatism, I am inclined to think that they are characteristic of the type of patient who suffers from pruritus rather than causes of the disease.

There are some patients who undoubtedly get attacks of pruritus as the result of indulgence in certain forms of food. Such patients say that they always have an attack of pruritus after eating shellfish, or it may be strawberries; others, again, say that indulgence in alcohol, or tea or coffee, will bring on an attack, and excessive smoking has the same result in some cases.

The anal skin and mucous membrane have certain peculiarities which have an important bearing upon the cause of pruritus. The mucous membrane lining the anal canal and the skin at the anal margin are richly supplied with sensory nerves, which act as the sentinels of the rectum; and these nerves are some of the most sensitive in the body to tactile influences. Not only are the nerve endings in the dermis very numerous, but there are a very large number of nerve endings in the subcutaneous tissue in this region. As a rule the most intense sensation is at the muco-cutaneous junction, which is also the point at which the largest number of nerve endings are congregated. Any source of irritation within the anal canal, or at either end of it, may be the cause of the itching, and one of the first things to be done in examining a patient suffering from pruritus is to thoroughly search this area.

**Local Causes.** The local causes of pruritus are the most important, and in the majority of cases some definite local cause can be found which, if treated, will cure the condition. In children, a local cause may be said always to exist, and I have never seen a case of pruritus in a child where the pruritus did not disappear after the local condition had been properly treated. The most frequent causes in children are condylomata and worms.

One of the common causes of pruritus is a constantly damp condition of the anal skin; this is due to some leakage, which allows the rectal mucus to escape and keeps the skin at the anal margin in a constantly damp condition, or to some discharging sinus or sore. The causes of leakage are numerous. Internal piles or small polypi, by prolapsing into the sphincter, cause mucus leakage, and I believe that this is the usual manner in which piles cause pruritus. Fissure, fistulæ, partial procidentia, worms and several other conditions may be the cause of pruritus by causing leakage in a similar manner.

Of the causes within the rectum itself which may give rise to pruritus, one of the commonest is catarrhal proctitis; this is a cause which is frequently overlooked, owing to the doctor being unacquainted with the proper methods of examining the rectum, or owing to his not having the proper instruments at his disposal.

Glycosuria is a well-known cause of pruritus, and in all cases the patient's urine should be tested for sugar.

There are some cases of pruritus ani associated with a special tendency to perspiration around the anus and between the buttocks, and it would seem as if the pruritus in some cases resulted from the damp condition of the skin induced by constant perspiration. At any rate, attempts to keep the parts dry and prevent perspiration seem to alleviate the itching. I have been much struck by the fact that a damp condition of the perianal skin is present in the great majority of cases of pruritus ani which come to me for treatment, and I am convinced that this is the exciting cause of the irritation in a very large number of cases. If the dampness can be got rid of, the irritation generally subsides.

Although the warty and rugose condition of the anal skin is the result of the pruritus rather than its cause, there is no doubt that in cases of old-standing the fissures which form the ridges on the skin have a great deal to do with keeping up the irritation; consequently, attention must be paid to getting the perianal skin back to its normal condition. This is best done by painting it occasionally with carbolic acid or with a strong solution of silver nitrate, and by the frequent application of weak carbolic fomentations.

Hypertrophied anal papillæ and small polypi are sometimes the cause of pruritus, and when present they should be removed.

A good deal of importance has been attached by some writers to reflex causes of pruritus. Such conditions as phimosis, stricture, hypertrophy of the prostate, and diseases of the female genital organs have been assigned as the cause of pruritus ani, and one author goes so far as to say that gallstones may produce pruritus. It is, I think, extremely doubtful whether pruritus can result from a purely reflex cause.

We may distinguish certain definite types of pruritus ani:—

1. Those due to some general condition, such as glycosuria, etc.
2. Those due to some parasite such as worms, pediculi, etc.
3. Pruritus obviously secondary to some lesion of the anal regions such as fissure, prolapsed pile, etc.
4. Pruritus of old standing where no local lesion can be discovered.
5. Paroxysmal pruritus.

Paroxysmal pruritus ani is the most severe form, and is a true disease of the nerve endings. In my experience it does not result from any local lesion, nor is there any abnormality of the parts beyond what is accounted for by scratching. The itching comes on in violent paroxysms, without cause, at any time of the day or night, and is so severe as to drive the patient nearly mad. This form of pruritus is usually the result of many years of a less severe type, and may be looked upon as a terminal condition. The condition more nearly corresponds to tic douloureux, and is undoubtedly caused by some abnormal condition of the nerve endings.

On no account should such patients be given morphia or opiates, as they may easily become morphia maniacs. Operation is the proper remedy.

Pruritus due to parasites is not uncommon, and these should always be looked for. *Pediculi pubis* may cause irritation in the neighbourhood of the anus, and should be noticed if a careful search is made. A much commoner cause is the small worm known as *Oxyuris vermicularis*. This worm is often found both in children and adults. It probably gains an entrance from uncooked vegetables. It is a commoner cause of pruritus ani than is generally suspected, and can easily be missed. The worms are very small, usually not more than  $\frac{1}{8}$ th to  $\frac{1}{4}$ th inch

long, and several examinations may be made without their being discovered. The patient should be instructed to look for them. If found, the best treatment is by strong salt water injections after first clearing the bowel with castor oil. This should be repeated after a few days' interval. Another method is to give sulphur tablets by the mouth, 6 to 10 grains every day for ten days.

*Enterobius vermicularis*, one of the nematode worms, is often found inhabiting the human intestine, and is a not uncommon cause of pruritus. It is a cause that can easily be missed for years. This worm's normal habitat is the appendix, and the gravid females make their way to the anus to oviposit. It is their movements which cause the irritation. The patient is constantly reinfesting himself from his fingers, which pick up the ova when scratching the parts. The itching usually occurs at night, and examination of the stools will fail to demonstrate the presence of the parasite unless a rectal wash-out, given at the time *when there is bad itching*, is examined. Treatment consists in washing out the rectum *at the time when the irritation is present* (and, therefore, the female worms may be assumed to be present in the rectum) with a solution of two tablespoonfuls of salt to the pint; 4 ounces of this solution should be injected.

Thymol may also be used to get rid of the worms. The treatment is carried out as follows:—A good purge is first given, and next morning  $\frac{1}{2}$  drachm of thymol administered by mouth, followed in two hours by another similar dose. This is again followed by a good dose of salts two hours later.

### Treatment.

Most, if not all, cases of pruritus can be cured if the patient is willing to place himself entirely in the hands of his medical adviser, and to carry out his instructions religiously.

**General Treatment.** If the patient is somewhat over-indulgent in the matter of food, he should be placed on a strict regimen. A good, simple diet should be prescribed. The patient should be advised to eat plenty of fruit and vegetables. If possible, it is better to stop entirely all alcoholic drinks; ginger-beer, coffee, and strong tea should also be forbidden. The bowels should be kept acting regularly with some simple aperient, or by the internal administration of petroleum.

It is most important that the parts should be kept scrupulously clean, and for this purpose the anus and surrounding skin should be carefully washed night and morning with a sponge and castile soap, or spirit soap. The parts should be most carefully cleansed after the bowels have acted, and paper must on no account be used for the purpose. I attach very great importance to scrupulous cleanliness in the treatment of many forms of pruritus ani.

It is important to remember that in quite a number of cases the irritation at night has become a habit, the patient waking up at the same time each night and scratching. It is important that in addition to the treatment for pruritus we should break this habit, and for this purpose it is advisable at first to give some reliable hypnotic to insure the patient sleeping during the period when he is in the habit of waking.

While a certain amount of attention should be paid to the general treatment, at the same time it is a mistake to put the patient on too rigid a diet or to cut down all his favourite vices too extensively. After all, we are asked to cure his pruritus and not to make him a slave to his anal region.

**Local Treatment.** The obvious indication, if any definite local cause of the pruritus exists, is first of all to treat this cause. Thus, if a fissure or ulcer is

discovered, it should be treated by suitable means, and the same applies to internal hæmorrhoids if they are present, especially if they prolapse when the bowels act. It is a mistake, however, to operate upon one or two little hæmorrhoids which have not given rise to any symptoms, merely on account of the pruritus.

Unfortunately, the removal of the cause is by no means always sufficient to cure the pruritus, though it is necessary to get rid of the cause before one can expect to treat the pruritus successfully.

Painting the skin with silver nitrate, 30 grains to the ounce, is very effective in some cases. This should be repeated at intervals of a few days.

The application of dusting-powders after carefully washing and drying the skin often gives permanent relief. The parts should first be washed with warm water and castile soap or oatmeal, then dabbed dry with a soft towel, and the powder afterwards applied with a powder-puff. The following powder I have often found very efficacious, especially when the parts were moist or cracked:—

℞ Calamine powder	...	...	...	...	1 part.
Starch powder	...	...	...	...	2 parts.

Even more effective than powders, and useful in the same type of case, are paints which leave a protective covering over the skin. These are generally made up with a glycerine basis, and should be applied with a soft brush after washing, and allowed to dry on.

In some cases ointments seem to be the best. They should be applied after cleansing the skin. The following is one which I have found effective:—

℞ Bismuth subnitrat	...	...	...	...	ʒii
Cocaine	...	...	...	...	grs. x.
Hydrarg. subchloridi	...	...	...	...	grs. xv.
Vaseline	...	...	...	...	ʒi

Another good remedy, which should be carefully smeared over the parts after they have been bathed and then dried with cotton wool, is the following:—

℞ Acidi carbolic	...	...	...	...	ʒii
Acidi salicylici	...	...	...	...	ʒiiss
Sodium bichlorate	...	...	...	...	ʒi
Glycerini	...	...	...	...	ʒi

This should be used at bedtime.

In cases of old-standing pruritus, where the skin is hard and like wash-leather, it is important to remove the thick horny layer of the skin before applying any remedy. There are several methods of doing this. One way is to paint the parts over with nitrate of silver, 60 grains to the ounce, at intervals of a day or so. Two or three applications are usually sufficient to get the skin into a more healthy condition.

**Treatment of Pruritus Ani by Subcutaneous Injections.** For many years attempts have been made to cure pruritus by the use of subcutaneous injections, which would either destroy or anæsthetize the nerve endings.

Yeomans advocates the use of a solution called benacol, which consists of equal parts of para-amino-benzoyl-benzoate and phenomethylol in 90 parts of rectified sweet almond oil. A modification of this solution, which has been called A.B.A. has been advocated by Gabriel, and consists of 3 per cent. solution of anæsthesin, with benzyl alcohol 5 per cent. and ether 10 per cent. in sterilized

olive oil. This solution has been extensively used at St. Mark's Hospital and has proved of distinct value in the treatment of pruritus.

**Severe and Intractable Cases.** It has been my experience that where the itching is of recent origin the removal of the cause is followed by prompt and permanent relief of the irritation, and such cases are easily cured; but the most difficult cases are those in which no local cause can be discovered, where no application seems to do any good, and more particularly the paroxysmal cases, which drive the patient to the verge of insanity.

In considering the treatment of pruritus ani as a whole, certain definite facts seem to me to stand out. Firstly, cases of pruritus with a history dating back for more than two years are very difficult to cure, and the removal of the local lesion, even if present, seldom stops the itching.

From this it seems to me we have to conclude that if pruritus ani has existed in at all an aggravated form for a long time, definite changes take place in the skin, or more probably in the nerve endings in the skin, which render the condition more or less permanent and prevent effective treatment. I believe these changes to be of the nature of a fibrosis in the deeper layers of the skin and involving the nerves, more especially the end plates in the dermis, and to be caused by the constant scratching and rubbing of the parts. In fact, in these old-standing and severe cases of pruritus an actual disease of the nerve endings in the skin exists. This was first realized by the late Sir Charles Ball, and he insisted on the fact that a definite nerve lesion was the underlying cause in such cases.

When definite changes have taken place in the nerve endings, we have to deal with a condition which is no longer likely to be cured by local applications. Nothing short of destruction of the diseased nerve endings is likely to stop the irritation. Until recently this could only be attained by total destruction of the skin, but now we can secure the same result by dividing the nerves before they reach the skin, without in any way damaging the latter, and without causing any permanent disability.

The modern operation, originally invented by Ball, of Dublin, is founded on sound principles, and has given excellent results. I believe that the reason why this operation has not been more extensively adopted than appears to be the case is that, although on paper it looks very easy, as a matter of fact it is very tricky and difficult to carry out. Unless complete anæsthesia of the whole area is obtained the result is a failure.

I have performed this operation at St. Mark's Hospital ever since 1905, with excellent results. In fact, with increasing experience of the results of this operation, I find myself advising it in all bad cases of pruritus ani of more than a year's standing in which improvement has not followed local applications. It is both more certain and safer than X-rays, and can be relied upon to give immediate relief.

**Treatment by X-rays.** X-rays have been extensively used in the treatment of pruritus ani for some years. The results in a few of these cases are very good; in probably about 20 per cent. immediate relief of the irritation results, and in a few is permanent. In the vast majority of cases it fails to give permanent relief, and even when very carefully carried out there is a serious danger of producing burns if the rays are given in sufficient dosage to have much chance of success. So serious do I consider the risk of producing X-ray burns from treatment in cases of pruritus that I now never advocate it, and I believe that the patient runs far less risk, and has a greater prospect of success, by having a Ball's operation.