Pruritus Ani

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Abstract

Keywords

- ▶ pruritus ani
- ▶ anal itching
- ▶ Paget's disease
- ▶ perianal

Pruritus ani is a common condition with many different potential causes. Because of this, it can be difficult to treat. It is important to identify and eliminate any inciting factors, which are often unintentional consequences of the patient's attempts to alleviate symptoms. If no reversible cause is found, simple measures with diet modification and perianal hygiene are tried before using topical medications or procedures.

Pruritus ani is the Latin term for “itchy anus,” and describes all conditions that result in itching and irritation in the perianal skin. Its first recorded description dates back to ancient Egypt, and it continues to be a common complaint to many dermatologists and colorectal surgeons alike.¹ Although it can be seen in any age group, there is an increased prevalence in ages 30 to 50, as well as in men.² The reported causes are legion, as are the treatments devised. Although it can be a frustrating entity for both the patient and the physician, it is important to rule out correctable and malignant etiologies while evaluating a patient with this complaint. The purpose of this chapter is to summarize the presentation and diagnostic approach to pruritus ani, as well as the available treatment strategies and their supporting evidence.

Etiology

The pathophysiology of itching in general is thought to be related to the C-fibers in the skin.³ Histamine, bradykinin, and kallikrein, among other substances, have been implicated in itching.⁴ Because of this, directing treatment to one pathway is unlikely to resolve symptoms in all patients. Scratching to relieve the itch can cause further excoriation and inflammation, which leads to additional stimuli of the nerve fibers. This “itch-scratch-itch” cycle is difficult for patients to break, complicating treatment efforts.

Causes of pruritus ani can be roughly classified into secondary and idiopathic, with 25 to 75% attributed to an identifiable source. Secondary causes are subdivided into local irritation, infection, inflammation, systemic diseases,

and neoplasms. Many of these conditions have a myriad of presentations, one of which might be pruritus. More often than not, a single attributable etiology is never found, or several putative etiologies are identified.

Secondary Pruritus

Local Irritation

Local irritation is one of the main causes of pruritus ani. Typically, the process is initiated by increased moisture, seepage, or leakage of fecal content onto the perianal skin. Typical causes of increased moisture include sweating/physical activity, prolapsing hemorrhoids, skin tags, fistulae, and anal fissures. Anal leakage can also occur from dietary factors such as caffeine, alcohol, and spicy foods.⁵ Stool consistency also plays a role, and patients with diarrhea often complain of irritation of the anal margin.

Once moisture and subsequent maceration begin, the patient often takes several steps to alleviate symptoms and eliminate the general feeling of being unclean. Patients often admit to overzealous cleaning of the area, which includes vigorous scrubbing in the shower and the use of medicated wipes after bowel movements. These steps often lead to worsening irritation secondary to local trauma. Baby wipes or wet wipes can contain several chemicals, including alcohol and other astringents that can be particularly damaging to the already compromised perianal skin. Unfortunately, patients often react to this worsening irritation by increasing the aggressiveness of their local hygiene, and a deleterious positive feedback loop is created.

Infection

Several infections are known to cause pruritus ani. Candida infections are relatively common, and can be present in upward of 10% of patients.⁶ This fungal infection tends to occur in moist or sweaty environments, including in the deeper folds of obese or elderly patients. It can also be associated with tight-fitting clothing. Candida can occur in immunosuppressed patients, or more commonly, patients taking antibiotics for other reasons. Patients often present with erythematous plaques, often accompanied by satellite lesions. Antifungal powder or lotion can be used, depending on the moisture level of the perianal region.⁶ Oral antifungal agents such as fluconazole can also be used for severe infections. *Streptococci* and *Corynebacterium minutissimum* (erythrasma) can also be associated with pruritus, but are less common, and often not represented on cultures of the perianal region.⁷

While pinworm (*Enterobius vermicularis*) is commonly blamed in anal itching because of its infectious cycle, it is rarely the cause of pruritus in adults. In children, clear cellophane tape can be applied to the anus in the early morning, and examined for worms and eggs to make the diagnosis. If found, pinworms are treated with albendazole or mebendazole.⁸

Pruritus is a symptom of many sexually transmitted diseases, including herpes and condyloma acuminata. A detailed sexual history is usually the first clue that a sexually transmitted disease needs to be addressed. Appropriate treatment usually results in resolution of the pruritic symptoms.

Inflammation

Inflammatory conditions include systemic skin processes that can affect the perianal region, in addition to other parts of the body. As such, it is important to ask about coexisting diagnoses such as psoriasis and eczema, as many patients do not necessarily consider them to be “diseases” and therefore do not report them on history intake sheets.

Psoriasis is an idiopathic chronic inflammatory disease of the skin with circumscribed dry erythematous scaling patches, often covered with white or silver scales. It is often in a butterfly or “inverse flame” shape in the perianal and sacrococcygeal region. Depending on the series, 5 to 8% of patients presenting to colon and rectal surgeons with pruritus ani have psoriasis. While psoriasis cannot be cured, it can be controlled with topical steroids for a brief period, followed by maintenance with topical calcipotriene, salicylic acid, or ultraviolet light.

Eczema, or atopic dermatitis, is an allergic response that results in dry, scaly, erythematous, and sometimes excoriated skin lesions. A wide variety of compounds have been implicated as inciting agents, including laundry detergents and topical creams that often come into contact with the perianal skin. Identification and avoidance of inciting factors are important in the treatment of this condition. The concomitant use of topical anesthetics and steroids, while leading to temporary relief, can frustrate attempts at identification of the inciting compound.

Lichen sclerosus (formerly known as lichen sclerosus et atrophicus) is an idiopathic condition that affects women

disproportionately. The white, atrophic, wrinkled skin changes can often be found in the labia as well as the perianal region. Because of a 5 to 6% incidence of squamous cell carcinoma associated with vulvar lichen sclerosus, lesions that do not respond to medical therapy should be biopsied. It usually does respond to a 6- to 8-week course of a topical steroid cream.

Systemic Diseases

Several systemic diseases can present with generalized pruritus as well as pruritus ani. Iron-deficiency anemia is one of the most common causes. Uremic pruritus in the setting of end-stage renal failure and cholestatic pruritus in liver disease have also been described. If the underlying cause cannot be corrected (i.e., via transplantation of the affected organ), a variety of treatments have shown some degree of success in treating the symptoms, including sertraline, gabapentin, and baby oil.⁹

Neoplastic Causes

Any anal or perianal neoplasm can present with symptoms of pruritus ani, and up to half of patients with perianal Paget's or Bowen's disease have pruritus. While these diseases remain rare, the clinician must maintain a strong understanding of their presentation so that anal biopsies are performed when appropriate, and treatment is not delayed.

Paget's disease is an intradermal adenocarcinoma in situ. It is quite rare, and has a peak incidence in the seventh decade of life. If discovered, endoscopic evaluation of the colon is needed to rule out an underlying carcinoma.¹⁰ Wide local excision with frozen sections is performed in noninvasive Paget's disease, while more radical surgery may be required for invasive disease.¹¹ Recurrence rates as high as 37 to 100% have been reported.^{12,13}

Bowen's (more properly termed anal intraepithelial neoplasia Grade 3, or high grade squamous intraepithelial lesion) is associated with human papillomavirus and condyloma. Only 5% of patients will develop a subsequent malignancy.¹⁴ Treatment of this entity is controversial because of the high recurrence rate associated with local resection, whether performed with high-resolution anoscopy and staining, or wide local excision.^{8,15} Topical treatments with 5-fluorouracil and imiquimod have been reported, with variable success.^{16,17} This topic is addressed in great detail in another chapter of this volume.

Primary/Idiopathic Pruritus

Primary or idiopathic pruritus is invoked when no specific pathologic etiology can be blamed for the patient's symptoms. Once again, fecal soilage, moisture, and various non-specific offending agents are believed to act as triggers for the itch, so it is difficult to label pruritus into concrete categories. A variety of associations have been made with patients complaining of pruritus ani, including loose stools, fecal soilage, increased water intake, exaggerated rectoanal inhibitory reflex, earlier incontinence to saline infusion, certain foods, overzealous hygiene, inadequate hygiene, dyes, perfumes, and various cleansing regimens.^{13,18–21} This extensive and sometimes contradictory list makes it clear that our understanding of pruritus ani is severely lacking.

Presentation

Patients presenting with pruritus ani complain of a range of symptoms, from mild irritation to severe, burning pain. Many are diagnosed (either by themselves or primary care physicians) with “hemorrhoids” or “pinworms.” They may note worsening symptoms during or after bowel movements, related to wiping, randomly throughout the day, nocturnally, or related to exercise. Bleeding is sometimes present, but is rarely much more than spotting on the toilet paper unless other pathology is present. Symptoms may be recent in onset, or longstanding. Bowel frequency or diarrhea is sometimes noted, as are anal incontinence, seepage, moisture, and sweatiness. As mentioned earlier, cleansing habits such as excessive wiping, the use of prepared wipes, witch hazel pads, and soap can often be elicited. Patients may report scratching the area, whether consciously or subconsciously. Rarely will patients link their symptoms to consumption of a particular food, and a specific history of the common offending agents should be sought (→Table 1).⁵ Elimination of each of these foods for a 2-week period may help identify a causative agent.

A detailed anorectal exam is warranted for patients who present with pruritus. Physical findings can be quite variable, and depend not only on the underlying pathology, but also on the steps taken by the patient to alleviate symptoms. The perianal skin can display a wide range of signs, from being completely normal to having severe, widespread excoriations. A staging system has been developed by the Washington Hospital Center: 2 stage 0 is normal skin; stage 1 is erythematous, inflamed skin; stage 2 is lichenified skin; and stage 3 is lichenified skin with erosions and ulcerations. Coexisting and contributory anorectal, infectious, or neoplastic pathology must be ruled out through anoscopy, cultures, or biopsies.

Workup

If the history and examination do not immediately suggest an etiology, confirmatory testing may be necessary. Scrapings of erythematous plaques can be sent for fungal examination. Suspicious lesions should be biopsied, but biopsies of normal

skin rarely yield a diagnosis. Swabs and cultures of ulcerated lesions may be sent to diagnose sexually transmitted diseases.

It should be noted that if a potential cause of the pruritus is found within the patient’s history, it is appropriate to treat the patient empirically, and reserve cultures and biopsies for treatment failures. However, if the presentation or physical findings are atypical, and certainly when the patient fails to respond to therapy, the practitioner should not hesitate to obtain more information. Most cases will be amenable to punch biopsy in the office setting.

Treatment

The quality of evidence for regimens to treat pruritus ani ranges from none to scant—few rigorous trials exist to favor one therapy over another. As a result, most of the treatments described here are based on experience and expert opinion.

Initial treatment should be directed toward any secondary causes identified. This may include topical and oral therapies, including steroids and antifungals when appropriate. If there is no clear source or etiology, then efforts should be directed toward idiopathic pruritus. The first and perhaps most important step is to manage the patient’s expectations: an instant cure is unlikely, and a period of trial and error is required to assess for common triggers of pruritus.

The patient should be admonished not to scratch the area, as this may lead to more excoriation and irritation. Although soilage of the perianal region is a common etiology of pruritus, many patients cause more excoriation through overzealous hygiene. The use of soap, particularly scented ones, should be avoided—warm water alone can be used, and the area should not be scrubbed vigorously during bathing or after toileting. The use of prepared wipes and witch hazel pads should be avoided—unscented toilet paper moistened with warm water is preferable. The region should be patted dry, or a hair dryer on a cool setting should be used. Although bidets are not commonly used in the United States, commercially available toilet seat covers with bidet functions popularized in Japan have been making inroads into this country, and may provide a less abrasive means of cleansing the perianal region.²² The use of loose-fitting, cotton underwear should be encouraged to allow for natural aeration. If the patient complains of moisture in the perianal region, sprinkling the area with baby powder and placing a dry cotton ball on the anal verge can help alleviate symptoms, as well as provide a tactile reminder not to scratch the area. If dry skin is an issue, nonscented, hypoallergenic moisturizing creams may be applied instead. In cases of soilage, the skin may be protected by a barrier cream.

Patients have often self-medicated with several over-the-counter creams, including steroids. In general, the patient should be counseled to limit the number of interventions, as this often unintentionally exacerbates the situation. If significant perianal irritation exists, it is safe and effective to treat with zinc oxide ointment. Calmoseptine (Calmoseptine, Inc., Huntington Beach, CA) is a combination of zinc oxide and menthol that has been anecdotally very effective for the treatment of pruritus ani.

Table 1 Foods associated with pruritus ani

Coffee, decaffeinated coffee
Tea
Chocolate
Citrus fruits, juices
Tomatoes, tomato paste
Cola
Beer
Wine
Liquors (scotch, bourbon, gin)
Spicy foods
Dairy products

In severe cases of soilage or irritation, Berwick's solution (crystal violet 1%, brilliant green 1%, 95% ethanol 50%, distilled water as much as sufficient 100%) can be applied followed by cool air drying. This is covered with tincture of benzoin and dried once more, and the sealant may remain on the skin for up to a week.⁹ Patients with loose stools may be treated with fiber or low doses of antimotility agents to decrease bowel frequency and to firm up stools.

Capsaicin, a component of chili peppers, has been suggested as a treatment of pruritus due to its ability to suppress histamine release and the subsequent itch-scratch response.²³ A 2003 randomized controlled trial compared topical capsaicin (0.006% applied three times daily for 14 days) to placebo for pruritus ani, and found a 63% response rate (31/49). A total of 10% of patients stopped the capsaicin cream due to side effects.²⁴ A meta-analysis in 2010 pointed out several methodological issues within this study, as well as other studies of capsaicin for other areas of pruritus, and did not recommend its use for most cases of pruritus.²⁵

There is some suggestion that topical application of tacrolimus ointment for 4 weeks may decrease itch intensity and frequency in pruritus ani. However, these studies suffer from small sample sizes and potential carry-over effect.^{17,26} In general, this treatment is well tolerated, and appears to be most effective in patients with atopic dermatitis. A concentration of 0.03% was used in these small studies.

Topical cortisone cream can also decrease itching symptoms.²⁷ However, as long-term use of topical steroids has been associated with atrophy of the skin, its use is usually limited to 2-week periods. While it is unlikely that steroids are "curative" in the long term, they can sometimes alleviate symptoms long enough for the patient to stop the itch-scratch-itch cycle and allow for healing of excoriated skin. While commonly prescribed by referring physicians, it may be necessary to stop use of topical steroids while a causative agent is sought.

For refractory cases of pruritus ani, intradermal and subcutaneous injection ("tattooing") of the perianal region with methylene blue has been described in several small case series.²⁸⁻³⁰ While none of these studies was randomized, long-term resolution of symptoms was described in 20 to 88% of patients. The mechanism of action is believed to be destruction of sensory nerve endings by the injection of the dye. The procedure does cause hypoesthesia of the perianal region, as well as occasional seepage; skin necrosis was reported in earlier trials until the technique was modified. A mixture of 10 mL 1% methylene blue, 5 mL normal saline, 7.5 mL 0.25% bupivacaine with epinephrine (1/200,000), and 7.5 mL 0.5% lidocaine is infiltrated using a small gauge needle to cover the affected perianal skin up to the dentate line. Of note, this treatment is known to either temporarily or permanently color the affected area blue, and patients should be counseled appropriately.

Summary

Pruritus ani is a common condition with a myriad of etiologies. Once underlying infectious, neoplastic, and anorectal

pathology has been treated or ruled out, therapy must be directed toward proper anal hygiene, avoidance of irritants, and minimizing skin trauma. Managing patient expectations at the outset of treatment is of paramount importance, as the resolution of symptoms often takes time.

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