

Dermatologic Diagnoses in the Perianal Area

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ABSTRACT

Perianal dermatosis can encompass lesions from benign eczematous processes to advanced malignancies. It is important for the colorectal surgeon to be able to distinguish common problems from more serious pathology. This article covers nonsexually transmitted diseases occurring in the intergluteal fold and perianal region. These include inflammatory dermatoses, bacterial and fungal infections, and other disease processes.

KEYWORDS: Dermatology, perianal, pruritis ani

Objective: Upon completion of this article, the reader should be familiar with perianal dermatologic conditions.

Perianal dermatoses can encompass anything from benign eczematous processes to advanced malignancies, and the breadth of the differential often leads to a difficult diagnostic challenge. The symptoms of the dermatoses can very often go unnoticed or can be the presenting complaint of a patient. Learning to identify common perianal dermatoses and being able to distinguish them from more serious pathology is integral for any colorectal surgeon. Presented below are frequently encountered dermatoses (not sexually transmitted disease-related) both in the intergluteal fold and perianal region. The etiology, diagnosis, and preferred therapy for each common skin disease affecting the perianal and perineal areas will be discussed. Our goal is to provide physicians with the information to appropriately recognize and treat these conditions, and also to allow nondermatologists to differentiate them from more dangerous pathologies.

INFLAMMATORY DERMATOSES

Contact Dermatitis

Contact dermatitis is an example of a very common eczematous (inflammatory) process that can be found in

the perianal region. Two basic types of contact dermatitis exist: primary irritant and allergic contact dermatitis. Primary irritant contact dermatitis is caused by skin contact with an irritant that results in a nonallergic inflammatory reaction. A previous sensitizing contact is not required for reaction. Common culprits of contact dermatitis in the perianal region include gastrointestinal contents after ingestion of spicy foods or cathartics, and simple moisture and acidic stools.¹ The clinical presentation is varied based on strength of irritant and chronicity of irritation. In contrast, allergic contact dermatitis requires an initial contact with an allergen to sensitize the skin. Through type-IV delayed-type or cell-mediated hypersensitivity, repeated contact will then result in an allergic dermatitis. Common causes of allergic contact dermatitis in the perianal region include nonoxinol-9 used in spermicidal jellies and some condom lubricants, latex found in condoms, and local anesthetics in suppositories for hemorrhoids.^{2,3} Again, the clinical presentation can vary according to the allergen, but typically there is erythema and varying degrees of edema, vesiculation, maceration, and oozing. Symptoms include pruritus, which can range from mild to severe and/or a burning sensation in the affected area. Diagnosis relies on detailed history taking, and patch

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tests can be performed for specific allergens, in case an allergic contact dermatitis is suspected. Treatment centers on removal of irritant or allergen, but severe cases can be attenuated with topical or oral corticosteroids. Hydrophobic barrier creams are also helpful for long-term prevention of recurrences. Antihistamines can be helpful in controlling pruritus.^{1,4,5}

Seborrheic Dermatitis

Seborrheic dermatitis is a very common eczematous process affecting up to 5% of the population. The etiology of seborrheic dermatitis has not been fully elucidated, but there have been studies showing a possible association with the yeast *Malassezia furfur*. It has also been associated with HIV/AIDS and Parkinson's disease. This chronic condition is characterized by superficial, ill-defined patches of different shape and size ranging from yellowish to pink in color, associated with scaling and/or crusting. In the acute phase there may be a combination of erythema, edema, vesiculation, maceration, and oozing of varying degrees. It has a predilection for affecting areas with hair and numerous sebaceous glands, such as the scalp, nasolabial folds, and eyebrows, but can also occur in the intergluteal fold and perineum. These patches can be pruritic and are often bilateral and symmetric. Diagnosis is made by clinical exam, response to treatment, and less commonly through the histological findings on biopsy. Selenium sulfide or ketoconazole shampoos can be used in the perianal area as liquid soap twice a day, followed by application of mild to mid potency, nonfluorinated corticosteroid creams or lotions such as desonide, mometasone furoate, hydrocortisone valerate, also applied twice a day for no more than 2 to 3 weeks. Topical antifungal creams in theazole category such as ketoconazole, miconazole, sulconazole, and so on can all be used in the treatment of seborrheic dermatitis.^{1,4,5}

Atopic Dermatitis

Atopic dermatitis, the prototypical eczematous skin disease, was first described in 1933 by Wise and Sulzberger as a disease characterized by eczema of the skin associated with asthma and hay fever.⁶ It is an increasingly common disease, affecting up to 20% of the population. There is likely a genetic component to atopic dermatitis, with children of affected parents being at increased risk for developing the disease. Although the etiology is unknown, several immunologic abnormalities such as elevated IgE, decreased cell-mediated immunity, and decreased chemotaxis of monocytes have been shown in patients with atopic dermatitis. The hallmark of atopic dermatitis is pruritus, which usually leads to significant self-induced skin injury in the form of excoriations and subsequent development of chronic

changes of hyperpigmentation, skin thickening, and even scarring, mostly from itching and scratching. Clinically, atopic dermatitis presents with acute (erythema, edema, vesiculation, and oozing), subacute (crusting, scaling), or chronic (hyperpigmentation, accentuation of skin lines, and skin thickening) features of eczema affecting the antecubital and popliteal fossae, face, neck, chest, wrists, and, less commonly, the intergluteal fold. The hands are frequently affected in the adult form of this condition. The individual skin lesions can be patches or plaques of eczema with the above-mentioned features, but individual or coalescing papules are not uncommon. The skin is often dry with scaling, crusting, excoriations, bleeding, and signs of chronic trauma. Secondary bacterial infection is commonly present simultaneously and needs to be treated with anti-Staphylococcal antibiotics. There are certain clinical criteria set out by Hanafin and Rajka for diagnosis of atopic dermatitis.⁷ Treatment commonly relies on proper moisturization, control of the pruritus, and cessation of the inflammatory response. Topical corticosteroid preparations and oral antihistamines represent the mainstay of therapy, but more severe cases can be treated with ultraviolet light and topical or oral immunosuppressants such as cyclosporine and FK506.^{1,4,5}

Psoriasis

Psoriasis is chronic, inflammatory disease of the skin that is characterized by erythematous plaques with hyperkeratosis, yielding the classic silvery scales. The etiology of psoriasis is unclear, but the pathogenesis involves the hyperproliferation and abnormal differentiation of keratinocytes, and T-cell-mediated inflammation. Emotional stress, trauma to the skin, and certain drugs including β -blockers, calcium channel blockers, and lithium have been associated with the development or worsening of psoriasis. Psoriasis typically occurs on the scalp and extensor surfaces of the extremities (elbow and knees/shins), as well as the sacrum and intergluteal fold, but can generalize to all locations on the body. The typical psoriasis plaque is usually well circumscribed, red, scaly, topped by typically large, easily detachable, silver-toned scales. Lesions can be single, but are more often multiple. In the intergluteal fold, the plaques tend to be more humid and less scaly, with more maceration and fissuring. Silvery scales are rarely noticed on perianal lesions. On the scalp, psoriasis can be easily confused with severe seborrheic dermatitis. Nails are frequently involved with abnormalities including nail pitting, separation of the nail plate from the nail bed (onycholysis), and accumulation of keratinous debris under the nail plate, which is often deformed (subungueal hyperkeratosis and nail plate dystrophies). Psoriasis can also be associated with concomitant arthritis. Patients may also complain of pruritus or burning. The diagnosis of

psoriasis relies upon clinical exam, and less frequently upon biopsy, which is usually diagnostic. There are a wide variety of treatments for psoriasis depending on severity of disease and response to previous treatment, but not all of them are suitable for the perianal area. Topical application of corticosteroids is most frequently the initial therapy, but topical coal tar products, vitamin D derivatives (calcipotriene), and steroid-sparing topical immunosuppressing agents such as tacrolimus or pimecrolimus can all be used. Methotrexate or immunosuppressive agents such as cyclosporine can be used when topical medications are unsuccessful.^{1,4,5} Phototherapy is very effective for controlling widespread disease, but is not useful for controlling perianal lesions.

Vitiligo

Vitiligo is an acquired, autoimmune dermatological disease that usually begins in childhood or young adulthood and affects close to 1% of the population. It is characterized clinically by depigmented macules or patches of skin that are found to be devoid of melanocytes. These macules are sharply demarcated and can be surrounded by a normal or hyperpigmented border. The hairs in the macules are often white. Commonly affected sites include the face, upper chest, and dorsal aspects of hands; they are often found on the skin around orifices, including the anus. Exam of the anus would again reveal a macular depigmented lesion. Diagnosis relies on clinical exam, and the use of Wood's light helps accentuate the pigment contrast. Finding similarly depigmented patches in areas of the body in addition to the perianal area confirms the diagnosis and biopsy is rarely indicated. Treatment for vitiligo centers on repigmentation for improved cosmetic appearance and it is rarely requested or administered to correct perianal lesions. Psoralen sensitization and ultraviolet light treatment, as well as high-potency topical steroids, have proven efficacy. Additionally, the use of a cosmetic to blend the skin color can be effective.^{1,4,5}

BACTERIAL AND FUNGAL INFECTIONS

Erythrasma

Erythrasma is a relatively rare skin infection caused by *Corynebacterium minutissimum* that affects mainly the intertriginous skin. It can be found in the intergluteal fold and perianal area and it presents as a light brown patch with sharp borders of irregular contour. Fine scales can only be appreciated after scratching or scraping the areas. Patients with this condition are generally asymptomatic. When observed under Wood's light, the patch shows a diagnostic coral-red colored fluorescence. First-line treatment is oral erythromycin, but topical tolnaftate, miconazole, and erythromycin are as effective.^{1,4,5}

Streptococcal and Staphylococcal Dermatitis

Superficial bacterial infections of the perianal area are most often caused by group A streptococcus and less commonly by *Staphylococcus aureus* and by nongroup A streptococci. This perianal dermatitis presents with a well-defined erythematous rim and can also be associated with fissuring. This condition is often painful, especially upon defecation, and most commonly affects children younger than 10 years of age. Diagnosis is based on clinical presentation, response to medication, and identification of bacteria through culturing of the lesion or blood if bacteremic. Standard treatment for group A streptococci is oral penicillin, but with the less common pathogens there is always concern for penicillin resistance.^{1,5,8}

Hidradenitis Suppurativa

Hidradenitis suppurativa is a disease of the skin containing apocrine glands, including the axillae, groin, and buttocks. Poral occlusion of the apocrine glands leads to bacterial infection and the formation of characteristic tender, erythematous, hard nodules that evolve into fluctuant interconnecting abscesses. Rupture of the abscess often leads to sinus tract formation, and multiple fistulous tracts, ulcers, fibrosis, and scarring are found in chronic disease. Clinical presentation is the cornerstone of diagnosis, and initial treatment involves intralesional corticosteroid injection with concomitant oral antibiotics (tetracycline, erythromycin). In chronic disease, incision and drainage of abscesses as well as excision of affected areas are integral in potentially curative treatment.^{1,5}

Candidiasis

The yeast *Candida albicans* can cause both candidal intertrigo found between the gluteal folds and also a perianal dermatitis. These conditions can often be precipitated by use of oral antibiotic agents, steroid use, and pregnancy. Intertrigo develops in moist environments, causing pruritic, red patches with a fringe of "collarette" scale. There can also be associated small white pustules located near the patches, as well as "satellite" erythematous macules. Perianal candidiasis presents with pruritus ani and a more localized erythema, around the anus. The diagnosis of both conditions relies upon clinical findings and microscopic examination of scrapings with potassium hydroxide. Hyphae and/or pseudohyphae are diagnostic, whereas spores or yeast forms do not necessarily indicate infection. Treatment of both candidal intertrigo and perianal candidiasis requires topical antifungal agents (azoles), but topical steroids and systemic antipruritic medication may also be necessary.^{1,4,5}

Tineas

Tinea is dermatological infection caused by dermatophyte fungi. It has a predilection for moist environments, but can occur almost anywhere on the body. Tinea cruris, also known as jock itch, is most often caused by *Tinea rubrum* and *Tinea mentagrophytes* and can spread back around to the anus. Tinea starts as a small scaling patch that spreads peripherally and clears centrally. Upon clinical presentation it is most often pruritic, erythematous patches with elevated borders that are serpiginous and scaling. The borders can have papules, pustules, and vesicles. Scraping of the scale and microscopic evaluation with potassium hydroxide (KOH prep) reveal diagnostic hyphae. Topical azole therapy or terbinafine are standard treatment of dermatophytic infections.^{1,4,5}

OTHER

Crohn's Disease

Crohn's disease is an inflammatory granulomatous disease of the gastrointestinal tract. Metastatic Crohn's disease indicates the presence of cutaneous granulomatous lesions. There have been reports of patients with direct extension of Crohn's into the perianal region. On examination, ulcers, plaques, and erythematous nodules may be identified. Anal fissures are often associated with Crohn's.⁹ Diagnosis would depend on the presence of pre-existing Crohn's disease, and biopsy with histology typical for Crohn's disease could be useful for verification. Treatment of the gastrointestinal symptoms with mesalamine, oral corticosteroids such as budesonide, or immunosuppressive agents have been shown to also improve cutaneous manifestations.^{1,5}

Extramammary Paget's Disease

Paget's disease, most commonly associated with the nipple, can also be found at number of extramammary sites, including the perianal region. Paget's disease in the perianal region can also indicate the presence of an underlying malignancy such as a glandular adnexal carcinoma or a local internal carcinoma. The initial presentation is often a bland, persistent eczematous patch that can be intensely pruritic and/or painful. Often misdiagnosed early on, the true significance of this finding can be overlooked for years. Bleeding can be associated as a later manifestation. The presence of edema and a reddish discoloration can suggest lymphatic infiltration by the cancer. Diagnosis relies upon biopsy with histology showing hyperkeratosis, parakeratosis, acanthosis, and pale Paget's cells in the rete ridges. Treatment of perianal Paget's includes surgical removal, and topical 5-fluorouracil has also been used preoperatively to help define tumor margins. Additionally,

the evaluation for malignancy is of paramount importance.^{1,5}

Perianal Dysplasia and Bowen's Disease

Human papillomavirus-induced anal dysplasia is not uncommonly seen in the perianal area and it is discussed in detail elsewhere in this issue. Clinically, human papillomavirus-induced anal dysplasia and squamous cell carcinoma in situ (Bowen's disease) of the perianal area can present with several different morphologies, including: maceration of the perianal area; mimicry of a chronic eczematous process such as contact dermatitis; presentation as an erythematous and scaly patch or plaque resembling psoriasis; or as multiple hyperpigmented, flat-topped, coalescing papules with a cobblestone appearance, in a condition known as Bowenoid papulosis. Treatment can be with topical 5-fluorouracil, topical imiquimod, liquid nitrogen cryotherapy, trichloroacetic acid applications surgical excision or a combination of any of these modalities. After treatment, repeat biopsies are necessary to rule out persistent disease. It is also recommended that patients with perianal dysplasia and/or squamous cell carcinoma in situ be followed with an anal Pap smear and, if possible, with high-resolution anoscopy and biopsies of the transition zone.

Herpes Simplex Virus-Induced Pyoderma Vegetans

In patients with HIV who develop chronic perianal herpes simplex virus (HSV) ulcerations, not uncommonly we see the development of hypertrophic lesions characterized by wet, lobulated plaques frequently covered by fibrin sheets. Histologically one may see changes that are characteristic of HSV infection, but often the only findings are those of pseudoepitheliomatous hyperplasia of the skin, dense inflammatory infiltrates in the dermis, granulation tissue, and fibrosis. This condition is known as pyoderma vegetans^{10,11} and it can develop not only in chronic HSV lesions, but also in any chronic ulcerative process in an area prone to secondary bacterial infection, such as the perianal area. Unless the tumor is destroyed by excision, ablation, or cauterization, the ulcers will heal very slowly, in spite of using adequate anti-HSV medications. It has been described that a chronic course of broad-spectrum antibiotics such as ciprofloxacin may help the healing process.¹²

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