

# Perianal Pseudoverrucose Papules and Nodules Mimicking Condylomata Acuminata and Child Sexual Abuse

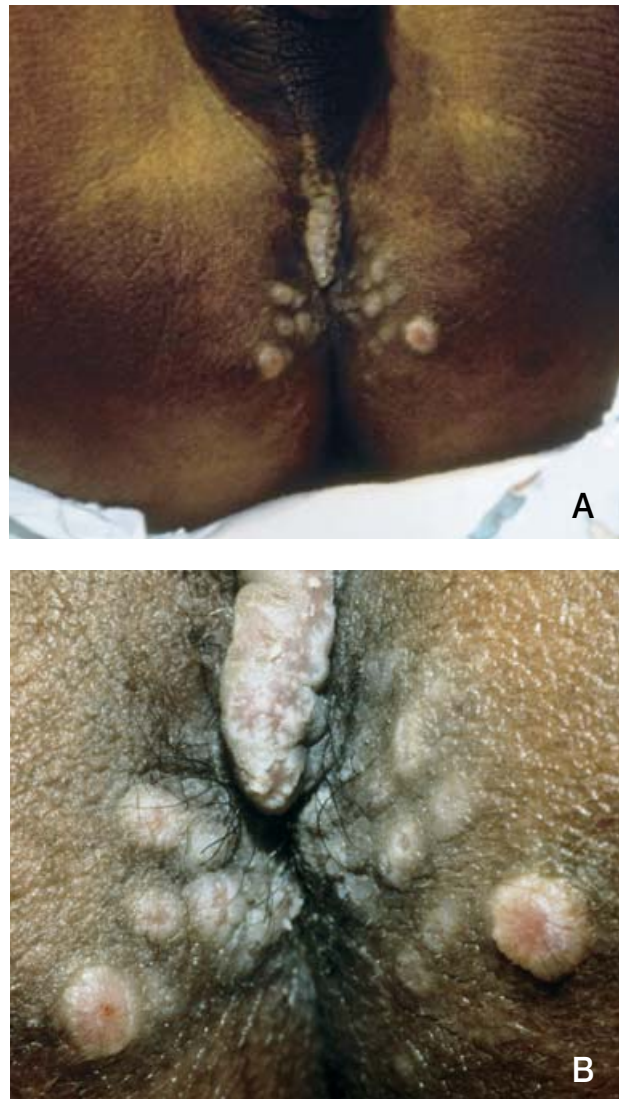
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*We describe an 8-year-old male with perianal nodules and papules mistaken for condylomata acuminata by the referring physician, raising the question of sexual abuse. Examination and histology at the Department of Dermatology supported the diagnosis of perianal pseudoverrucose papules and nodules (PPPN).*

Perianal pseudoverrucose papules and nodules (PPPN) develop as a result of chronic irritation from prolonged exposure to liquid stool and/or urine. These changes may be associated with congenital megacolon, persistent diarrhea, and urinary incontinence.<sup>1-3</sup> The lesions consist of smooth or verrucose papules and nodules on the perianal, genital, and suprapubic regions and on the buttocks. Because of its verrucose morphology, PPPN might be easily mistaken for condylomata acuminata. We present a patient who had PPPN diagnosed as condylomata acuminata, which raised suspicion of sexual abuse.

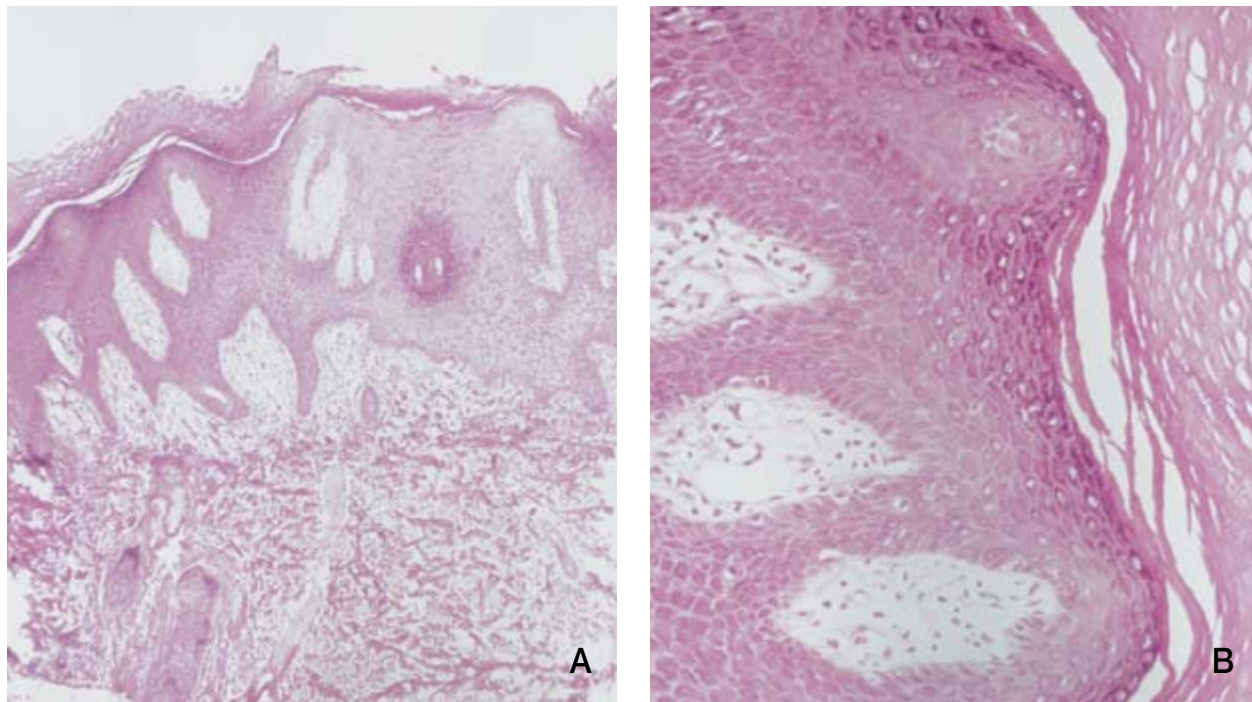
## Case Report

An 8-year-old African American male presented with a 3-week history of asymptomatic perianal papules and nodules. He had had chronic loose stools since the neonatal period when he underwent a partial colectomy for necrotizing enterocolitis. This led to short bowel syndrome and malabsorption. Three weeks prior to presentation, the chronic diarrhea worsened with development of perianal dermatitis. A presumed diagnosis of condylomata acuminata raised concern for sexual abuse, although



**Figure 1.** Three- to 4-mm eroded erythematous dome-shaped papules, nodules, and linear verrucose plaques (A and B).

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**Figure 2.** A sparse perivascular and interstitial inflammatory infiltrate in the papillary dermis of neutrophils, small lymphoid cells, and a few histiocytes (A and B) (H&E, original magnification  $\times 10$ ).

no supportive history could be elicited. The gastroenterologist sought dermatologic consultation.

Examination revealed 3- to 4-mm eroded erythematous dome-shaped papules, nodules, and linear verrucous plaques (Figure 1, A and B). Biopsy results revealed hyperkeratosis, irregular epidermal hyperplasia, edema, and telangiectases in the papillary dermis. A sparse perivascular and interstitial inflammatory infiltrate in the papillary dermis consisted of neutrophils, small lymphoid cells, and a few histiocytes (Figure 2, A and B). These findings were consistent with PPPN. The lesions resolved with cessation of his diarrhea.

### Comment

PPPN is an uncommon complication of diaper dermatitis that is associated with chronic diarrhea from various causes. It is most commonly reported in association with surgery for congenital megacolon, urostomies, and urinary incontinence. This condition has been identified by various titles including chronic papillomatous dermatitis, diaper granuloma of incontinence, diaper dermatitis with granulomas, and diaper dermatitis of the aged.<sup>1</sup> The histology of these lesions is nonspecific and shows acanthosis, papillomatosis, spongiosis, papillary edema, prominent dermal blood vessels, and a mixed perivascular infiltrate.<sup>1</sup>

PPPN presents as erythematous papules and nodules in perianal, suprapubic, genital, and peristomal

areas and on the buttocks of infants and children. The lesions appear 1 to 10 months after the onset of diaper dermatitis.<sup>1</sup> The exacerbation of diarrhea 3 weeks prior to presentation in our patient likely contributed to the onset of PPPN.

Several mechanisms are involved in the pathogenesis of PPPN. The most important triggering factor is a moist environment from prolonged exposure to liquid stool and/or urine, aggravated by occlusive diapers. This milieu potentiates maceration and increased sensitivity to the damaging effects of fecal irritants, primarily pancreatic proteases and lipases.<sup>1</sup> These enzymes become more active and damaging in the presence of bile salts and high pH.<sup>1</sup> The alkaline environment is due to urinary ammonia produced by fecal intestinal bacteria ureases.<sup>1</sup> These factors are particularly important in short bowel syndrome, which is associated with a higher than normal concentration of pancreatic enzymes because of the decreased length of the bowel. Cultures are usually negative for bacteria and fungi but, with contamination from urine and feces, may grow *Candida albicans*, *Escherichia coli*, and *Proteus mirabilis*.<sup>1</sup>

The differential diagnosis of PPPN includes viral warts, condylomata lata, condylomata acuminata, acrodermatitis enteropathica, neoplastic processes, halogenoderma, bacterial infections, candidiasis, cutaneous Crohn's disease, and Langerhans cell histiocytosis.<sup>1</sup>

### Differential Diagnosis of Warty Perianal Papules

Distinguishing Features	Perianal Pseudoverrucose Papules and Nodules	Condylomata Acuminata	Condyloma Lata
Morphology of lesions	Smooth or verrucose erythematous papules and nodules with occasional erosion	Soft skin-colored, verrucose papules occasionally coalesce into cauliflowerlike masses <sup>4</sup>	Smooth, moist, dome-shaped 1–3 cm papules and nodules <sup>4</sup>
Location	Perianal, genital, and suprapubic areas and buttocks	Perianal, genitalia <sup>4</sup>	Perianal and perineal <sup>4</sup>
Etiology	Chronic diaper dermatitis secondary to chronic diarrhea and/or urinary incontinence	Human papillomavirus <sup>5</sup> : Low cancer risk: 6, 11 High cancer risk: 16, 18, 31, 33, 51	<i>Treponema pallidum</i> <sup>4</sup>
Histology	Hyperkeratosis, acanthosis, spongiosis, papillomatosis, papillary edema, enlarged dermal capillaries, and mixed sparse perivascular infiltrates	Papillomatosis, considerable acanthosis, and thickened elongated rete ridges Superficial squamous epithelial cell, perinuclear vacuolization, and large hyperchromatic nuclei <sup>5</sup>	Psoriasiform hyperplasia with spongiform pustule <sup>6</sup> Perivascular lymphocytic and plasma cell infiltrate A silver stain reveals spirochetes
Response to therapy	Resolve with cessation of diarrhea	Unpredictable Recurrence: 5%–10% <sup>4</sup>	Heal without scarring within 2–10 weeks with or without treatment <sup>4</sup>
Natural course	No resolution without cessation of diarrhea	May spontaneously resolve	Heal without scarring within 2–10 weeks with or without treatment <sup>4</sup>

The distinction between condylomata and PPPN is important because of the serious implications of child sexual abuse (Table). PPPN is usually differentiated from condylomata acuminata based on the history and clinical picture. If needed, a biopsy will confirm the correct diagnosis. If the clinical examination and/or histology support the diagnosis of human papillomavirus, sexual abuse should be considered. Nonsexual inoculation of human papillomavirus is the most common route of infection in children younger than 3 years, but

in older children, sexual abuse must be strongly considered.<sup>7-10</sup>

With the increased awareness of child abuse, other mimickers of condylomata acuminata such as benign pigmented apocrine vulvar hamartomas,<sup>11</sup> keratosis follicularis (Darier disease),<sup>12</sup> perianal eosinophilic granuloma,<sup>13</sup> benign familial chronic pemphigus (Hailey-Hailey disease),<sup>14</sup> and focal epithelial hyperplasia<sup>15</sup> have been described. To our knowledge, this is the first report of PPPN mistaken for condylomata acuminata raising the question of child abuse.

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