

Images – Atypical presentation of pearly penile papules

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Case presentation

A male in his early 30s presented for evaluation of papules on the ventral penis that had been present since adolescence. He noted that since being discovered, the papules have caused significant psychosocial distress. He was sexually active with one female partner and was concerned about transmitting the lesions to his partner. He was previously seen by his primary care physician and diagnosed with genital warts and was treated with topical podophyllin, which he had used for several months prior to his referral. The podophyllin use precipitated significant irritation and ulceration of the lesions without overall improvement. Physical examination revealed a 4 mm pink to white papule on the ventral aspect of the left glans penis, and a 1 mm skin colored papule overlying the medial portion of corona on the contralateral side (Fig. 1). He was circumcised and two additional minute, white papules were noted on the corona.

Shave biopsies of the ventral papules were performed both for diagnostic and therapeutic purposes (Figs. 2–4). Scanning magnification of the larger, pink papule revealed a projectile-shaped architecture with acanthosis and hyperkeratosis. The dermis featured an increase in small-caliber vessels with perivascular fibroplasia and increased dermal fibroblastic cells with spindled- to triangular-shaped nuclei. The smaller papule displayed similar histological features. There was no evidence of koilocytic changes or dysplasia to suggest human papillomavirus-mediated warts, or Bowenoid papulosis, which usually present as pink- to skin-colored papules on the shaft of the penis. Features of molluscum contagiosum, such as molluscum (Henderson-Patterson) bodies, were not seen. Clinically, the lesions also lacked creamy white cores and umbilications and did not undergo

spontaneous resolution. The patient was diagnosed with pearly penile papules and reassurance of the benign and non-contagious nature was provided to the patient.

Angiofibromas are common, benign, fibroblastic proliferations that take on several clinical forms. They are a common feature of tuberous sclerosis and may appear as multiple lesions on the face (adenoma sebaceum), plaque-like lesions on the forehead or body (fibrocephalic plaque), or periungually (Koenen tumor). Multiple angiofibromas have also been reported in endocrine neoplasia type 1.¹ Solitary angiofibromas of the face are extremely common and are known as fibrous papules, often occurring on the nose.

Discussion

Pearly penile papules are angiofibromas of the glans penis and are seen in up to 30% of males, with a slight preponderance for uncircumcised patients of African descent.² The most common presentation is innumerable white- to skin-colored papules that are less than 1 mm in size, located circumferentially around the corona. They often arise during puberty and come to the attention of primary care physicians, urologists, or dermatologists due to patient concerns of infection and/or cosmesis.³ Oftentimes, they are misdiagnosed and treated as warts, particularly in atypical cases.⁴ Isolated lesions on the ventromedial aspect of the corona near the frenulum is an uncommon presentation (approximately 15% of cases).⁵ The lesion on the left side was substantially larger than would be expected for pearly penile papules and may have contributed to the erroneous diagnosis in our patient. The more typical lesions elsewhere on the coronal rim were a clue to the correct diagnosis.

Treatment of asymptomatic lesions is generally not indicated, but psychosocial distress may warrant therapy. Venerophobia, the exaggerated or irrational fear of contracting venereal disease following sexual intercourse, is often associated with pearly penile papules. Although the prevalence of venerophobia is unknown, the increasing numbers of premarital patients presenting to sexually transmitted infection clinics for voluntary appointments suggests



Fig. 1. A small, pink papule on the left side of the corona, with a smaller, pearly white papule on the contralateral side.

its prevalence is on the rise. These patients often require frequent reassurance during multiple clinical appointments. Treatment of pearly penile papules in venerophobic patients has led to successful outcomes in relieving the psychological stresses these patients associate with benign lesions.⁶ If treatment is desired, cryotherapy, electrodessication, shave removal, or a variety of lasers can be used to destroy the lesions. Fractionated carbon dioxide, neodymium-doped yttrium aluminum garnet (Nd:YAG), and pulsed dye lasers have been demonstrated to be effective in many single reports and

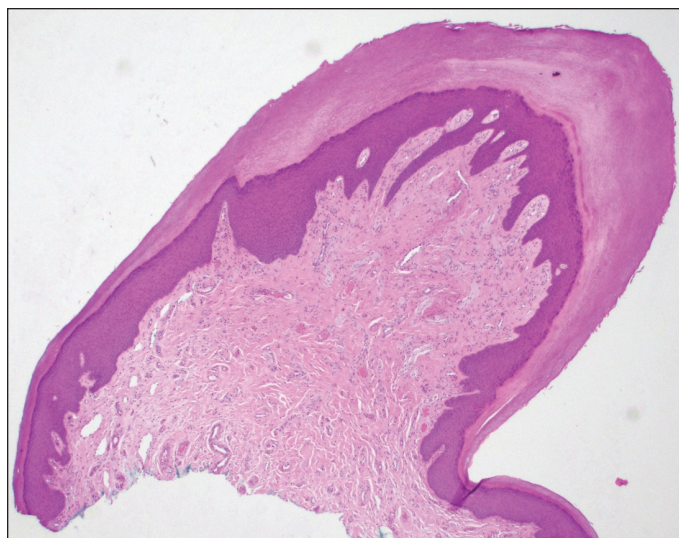


Fig. 2. 40x original magnification: dome-shaped papule with a hyperkeratotic and acanthotic epidermis.

case series in the literature.⁷ Due to the decreased prevalence of pearly penile papules in men over the age of 50, it is possible that spontaneous regression may occur over time.⁸

Conclusions

This case highlights an atypical presentation of a common condition leading to misdiagnosis, inappropriate counseling, and harmful treatment. Although pearly penile papules classically present around the corona and can be easily diagnosed clinically, when this is not the case, biopsy may be necessary to achieve an accurate diagnosis. Despite being more common in skin of color, there is a paucity of

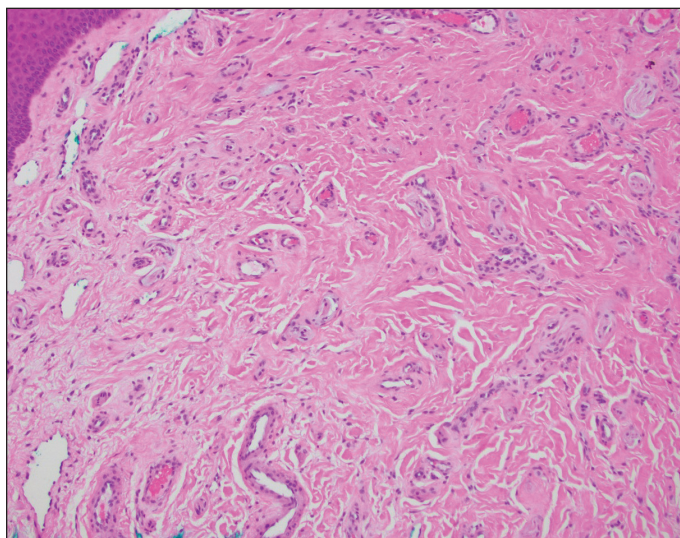


Fig. 3. 200x original magnification: fibrotic dermis with increased small-caliber vessels.

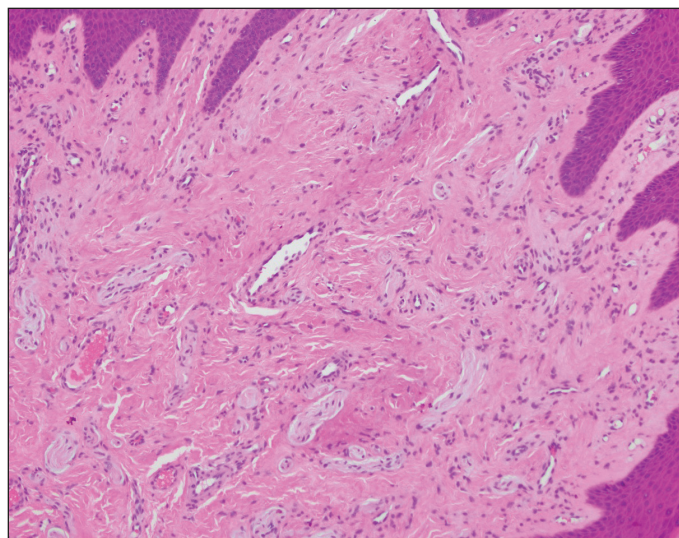


Fig. 4. 200x original magnification: dermal proliferation of spindled cells.

representative images in urology and dermatology atlases, which may lead to under-recognition, as was the case in our patient. Patient concerns about transmission should be allayed by explaining the non-infectious nature of this condition. Symptoms, including self-consciousness about appearance, and patient preferences should guide the treatment approach.

Competing interests: The authors report no competing personal or financial interests related to this work.

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