Images – Atypical presentation of pearly penile papules

Karl M. Saardi, MD[1]; Justin M. Dubin, MD[2]; Michael A. Cardis, MD[1]
[1]Department of Dermatology, MedStar Washington Hospital Center/Georgetown University Hospital, Washington, DC, United States; [2]Department of Urology – University of Miami Miller School of Medicine, Miami, FL, United States

Cite as: Saardi KM, Dubin JM, Cardism MA. Images – Atypical presentation of pearly penile papules. *Can Urol Assoc J* 2020 October 27; Epub ahead of print.
http://dx.doi.org/10.5489/cuaj.6787

Published online October 27, 2020

***

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 4mm pink to white papule on the ventral aspect of the left glans penis, and a 1mm skin colored papule overlying the medial portion of corona on the contralateral side (Figure 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 (Figures 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 histologic 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 (PPP) 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 multiple 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 1mm 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 PPP 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 PPP. Although the prevalence of venerophobia is unknown, the increasing numbers of premarital patients presenting to sexually transmitted infection clinics for voluntary appointments suggests its prevalence is on the rise. These patients often require frequent reassurance during multiple clinical appointments. Treatment of PPP in venerophobic patients has led to successful outcomes in relieving the psychological stresses these patients associate with the benign lesions.[6] If treatment is desired, cryotherapy, electrodessication, shave removal, or a variety of lasers can be used to destroy the lesions. Fractioned carbon dioxide, neodymium-doped yttrium aluminum garnet (Nd:YAG) and pulsed dye lasers have been demonstrated to be effective in many single reports and case series in the literature.[7] Due to the decreased prevalence of PPP 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 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.

References

1. Vidal A, Iglesias MJ, Fernández B, et al. Cutaneous lesions associated to multiple endocrine neoplasia syndrome type 1. *J Eur Acad Dermatol Venereol*. 2008;22(7):835-8.
2. Glicksman JM, Freeman RG. Pearly penile papules. A statistical study of incidence. *Arch Dermatol*. 1966;93(1):56-9.
3. Sonnex C, Dockerty WG. Pearly penile papules: A common cause of concern. *Int J STD AIDS*. 1999;10(11):726-7.
4. Hyman AB. Tyson's "glands." Ectopic sebaceous glands and papillomatosis penis. *Arch Dermatol*. 1969;99(1):31-6.
5. Yildiz H, Demirer Z, Ozmen I. The Prevalence of Penile Pearly Papules among Young Men. *Acta Dermatovenerol Croat*. 2017;25(1):46-9.
6. Mahajan BB, Shishak M. An approach to venerophobia in males. *Indian J Sex Transm Dis AIDS*. 2017;38(1):103-6.
7. Aldahan AS, Brah TK, Nouri K. Diagnosis and Management of Pearly Penile Papules. *Am J Mens Health*. 2018;12(3):624-7.
8. Agha K, Alderson S, Samraj S, et al. Pearly penile papules regress in older patients and with circumcision. *Int J STD AIDS*. 2009;20(11):768-70.

Figures and Tables

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

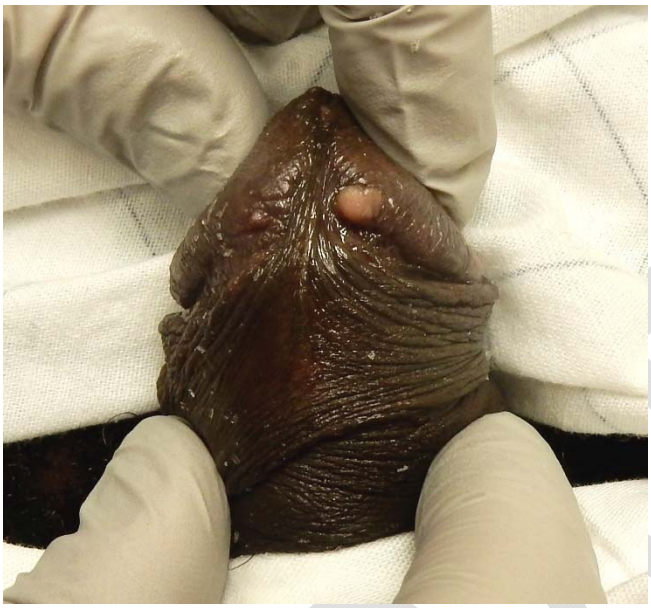

Fig. 2. 40x original magnification: dome-shaped papule with a hyperkeratotic and acanthotic epidermis.

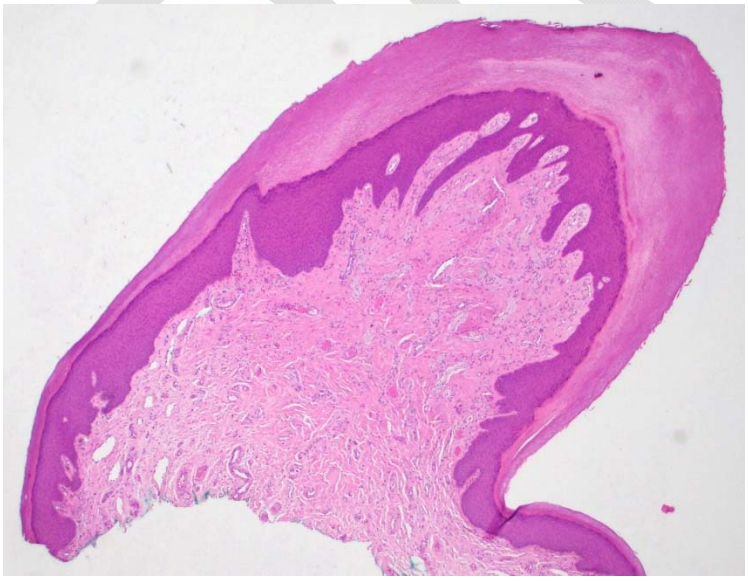

Fig. 3. 200x original magnification: fibrotic dermis with increased small-caliber vessels.

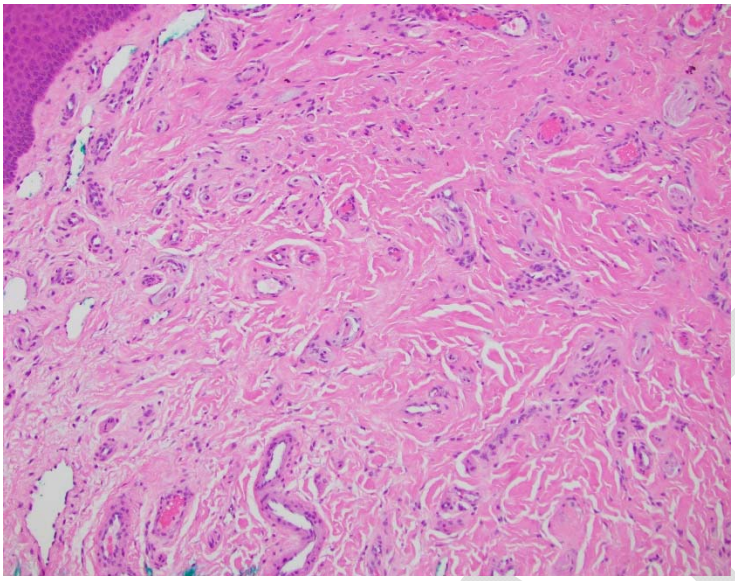

Fig. 4. 200x original magnification: dermal proliferation of spindled cells.