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3. Pearly penile papules

Pearly penile papules (PPPs) are benign angiofibromas that present as a single row or several rows of discrete, smooth, dome-shaped, 1- to 2-mm sized, skin-coloured papules distributed circumferentially on the corona and sulcus of the glans penis.¹ The penile shaft is rarely involved. Although PPPs are asymptomatic, patients often seek treatment because of concerns about cosmetic appearance or concerns about having a sexually transmitted infection, especially genital warts.²

Pearly penile papules develop most commonly in the second and third decades of life and less frequently after the age of 40. In men younger than 50 years of age, the prevalence is about 35%.³ A higher incidence of PPPs has been noted in black and uncircumcised male patients.⁴

Pearly penile papules are characterized histologically as acral angiofibromas. They are thought to represent phylogenetic residua from animal ancestry and are thus considered a normal anatomic variant of the penis.⁵ A specific function has not been identified. It was previously suggested that the human papillomavirus might play a role in the etiology of PPPs; however, such an association has not been confirmed.³ The development of malignancy from PPPs has not been reported.

Diagnosis

A diagnosis of PPPs is made clinically. The differential diagnosis includes condyloma acuminata (genital warts), molluscum contagiosum, ectopic sebaceous glands, and lichen nitidus.⁴ Condyloma acuminata are most important to rule out. Unlike PPPs, they are less uniform in shape and size, tend to be more verrucous, and might change in appearance over time. In addition, they are not typically arranged in neat circular rows surrounding the penis, as are PPPs.⁴ Lesions of molluscum contagiosum tend to be umbilicated and larger in size, sometimes with a pink hue.¹ Ectopic sebaceous glands and lichen nitidus are both commonly located on the penile shaft. Ectopic sebaceous glands are more yellow in colour and can often discharge a cheesy material.⁴ Lesions of lichen nitidus tend to be flat-topped and are often polygonal in shape.¹ In cases in which the diagnosis is uncertain, a biopsy can be performed, as PPPs and each of the conditions considered in the differential diagnosis have characteristic histologic findings.

Treatment

As PPPs are benign, no treatment is required. Patients should be reassured that PPPs are not due to a sexually transmitted infection and do not carry any risk of becoming malignant. For those patients with ongoing cosmetic concerns resulting in psychological distress, treatment can be implemented. Cryotherapy with liquid nitrogen and carbon dioxide laser ablation therapy are the 2 most effective treatment modalities. Two treatments with liquid

nitrogen can successfully remove 80% to 90% of lesions without scarring or postinflammatory pigment changes if performed by an experienced physician.^{6,7} Excellent cosmetic results have also been obtained with carbon dioxide laser ablation therapy,⁸⁻¹⁰ with the continuous wave laser being more effective than the pulsed laser.¹⁰ Pearly penile papules can also be treated successfully with electrodesiccation and simple surgical excision.⁴

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Competing interests

None declared

References

1. James WD, Berger TG, Elston DM. *Andrews' diseases of the skin: clinical dermatology*. 10th ed. Philadelphia, PA: WB Saunders Co; 2006.
2. Sonnex C, Dockerty WG. Pearly penile papules: a common cause of concern. *Int J STD AIDS* 1999;10(11):726-7.
3. Hogewoning CJ, Bleeker MC, van den Brule AJ, Voorhorst FJ, van Andel RE, Risse EK, et al. Pearly penile papules: still no reason for uneasiness. *J Am Acad Dermatol* 2003;49(1):50-4.
4. Agrawal SK, Bhattacharya SN, Singh N. Pearly penile papules: a review. *Int J Dermatol* 2004;43(3):199-201.
5. Oates JK. Pearly penile papules. *Genitourin Med* 1997;73(2):137-8.
6. Ocampo-Candiani J, Cueva-Rodriguez JA. Cryosurgical treatment of pearly penile papules. *J Am Acad Dermatol* 1996;35(3 Pt 1):486-7.
7. Porter WM, Bunker CB. Treatment of pearly penile papules with cryotherapy. *Br J Dermatol* 2000;142(4):847-8.
8. Magid M, Garden JM. Pearly penile papules: treatment with the carbon dioxide laser. *J Dermatol Surg Oncol* 1989;15(5):552-4.
9. Lane JE, Peterson CM, Ratz JL. Treatment of pearly penile papules with CO₂ laser. *Dermatol Surg* 2002;28(7):617-8.
10. McKinlay JR, Graham BS, Ross EV. The clinical superiority of continuous exposure versus short-pulsed carbon dioxide laser exposures for the treatment of pearly penile papules. *Dermatol Surg* 1999;25(2):124-6.