Commentary

Pearly penile papules

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Pearly penile papules (PPP) (also often referred to as pink pearly papules or pink penile papules) have been noted by many anatomists and dermatologists over the past 250 years, including such distinguished names as Littré and Morgagni. They commonly present to clinics for sexually transmitted diseases as one of the minor "rarities" and the source of much anxiety for worried adolescents.

No agreement has been reached on their incidence and their natural history is not clearly understood. As the *Case report* in this issue¹ shows, new facts about the shape, genital sites and age incidence of PPP are still being reported.

In one of the earliest studies Buschke² noted their presence in 36 of 435 of men and boys examined. They were seen only in patients between the ages of 24 and 41 years. Buschke and Gumpert³ in a later study found them in 20% of males. Neinstein and Goldenring⁴ found PPP to be present in 15.2% of 151 adolescents (mean age 17.2 years, range 11-22). No PPP were found under the age of 14 years. Eighty per cent of patients were circumcised but there was no statistically significant association between the presence of PPP and race, sexual activity or the circumcised state.

Glicksman and Freeman⁵ found the lesions present in 20% of 229 males with an age span of 16 to 78 years. They noted no PPP in patients over 41 years of age. Winer and Winer⁶ reviewing the literature up to 1995 found all recorded patients were under the age of 41 while Cordivola *et al*⁷ after examining 2040 patients, were able to find only one with PPP. Neri *et al*¹ claim that their patient appears to be the only pediatric case reported in the literature though, as the authors point out, Buschke² stated that structures similar to PPP had been observed in the newborn and his illustration of apparently typical lesions present in a neonate is reproduced by Dickenson,⁸ in his *Atlas of Human Sexual Anatomy*.

The papules vary somewhat in shape, size, and colour though the lesions are all identical in an individual. PPP range from dome or conical shaped lesions, about 1 to 2 mm wide, and from 1 to 2 mm or rarely more in height. Small globular protuberances are common whilst angular forms are sometimes seen. The annular forms described by Neri *et al*¹ have not been previously recorded.

Their colour may be pink, white, yellow or rarely almost transparent. They are commonly found in a single or double row on the corona which may partially or completely encircle the glans. They tend to be most prominent on the dorsum of the glans and to fade somewhat as they approach the fraenum. Unusually

they may be found on the glans itself but are associated with typical coronal lesions.⁹

Only two cases appear to have been recorded of PPP on the shaft of the penis, one by O'Neil and Hansen¹⁰ while the boy reported by Neri *et al*¹ is the only case without additional papules on the glans or corona.

The age at which PPP actually appear is not clear but they are certainly mostly noted in late puberty, adolescence and young manhood when sexual interest and activity are at a height. Although PPP may be present before puberty,¹² this must be a rare occurrence. A prevalence of 10-20% in babies would be unlikely to go unreported by paediatricians and paediatric urologists. It is uncertain if the lesions persist in old age; I have seen them in men in their early fifties.

Histological reports are uniform in their findings showing a thinned epithelium overlying areas of fibrosis and vascular proliferation in the upper dermis. A mild lymphocytic infiltration is commonly present. Neri *et al*¹ found no nerve fibres in any of the papules they biopsied. Tannenbaum and Becker,¹¹ however, identified groups of non myelinated fibres in the upper layer of the tunica propria. These fibres formed ovoid structures into which one or more myelinated fibres were seen to enter. Similar structures were noted in the papillary layer of biopsy specimens taken from the coronal region in patients who did not have papules. Both were considered to be normal mucocutaneous sensory end organs and their presence in PPP had no special significance.

Penile papules are found in many animals including cats, dogs and some chimpanzees.^{12 13} Those seen in the cat for example are very prominent, resembling spines.

In man the possibility has been considered that PPP may stimulate the vagina during intercourse but in view of their very small size this seems to be extremely unlikely. Patients with PPP have never reported them as having any erogenous function. They appear to fulfil no specific purpose in men and the suggestion by Callomon and Wilson⁹ that they may represent *phylogenetic residua from our animal ancestry* is almost certainly correct.

No treatment other than reassurance is required and requests from patients for surgical removal for cosmetic reasons should generally be resisted.

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- 3 Buschke A, Gumpert H. Die papillen an der corona glandis; in Vergleichend-Anatomischer und Ethnologischer Beziehung. *Arch f Frauenk* 1925;11:43-6.
- 4 Neinstein LS, Goldenring J. Pink pearly papules: an epidemiological study. *J Pediatr* 1984;105:594-5.

- 5 Glicksman JM, Freeman RG. Pearly penile papules: a statistical study of incidence. *Arch Dermatol* 1966; 93:56-2.
- 6 Winer JH, Winer LH. Hirsutoid papillomas of coronal margin of glans penis. *J Urol* 1955;74:375-7.
- 7 Cordiviola LA, Sanchez Caballero HJ, Bosq P. Hirsuties papillaris penis de Maiocchi. *Sem Med Buenos Aires* 1957; 110:908-11.
- 8 Dickinson RL. *Atlas of human sexual anatomy*. Baltimore: Williams & Wilkinson, 1949. 2nd ed (fig 118).
- 9 Callomon FT, Wilson JF. *The nonvenereal diseases of the genitals*. Springfield, IL: Charles C Thomas, 1956.
- 10 O'Neil CA, Hansen RC. Pearly penile papules on the shaft. *Arch Dermatol* 1995;131:491-2.
- 11 Tannenbaum MH, Becker SW. Papillae of the corona of the glans penis. *J Urol* 1965;93:391-2.
- 12 Bloom F. *Pathology of the dog and cat*. Evanston, IL: American Veterinary Publications, 1954:263.
- 13 Hill WC. Notes on the male external genitalia of the chimpanzee. *Proc Zool Soc Lond* 1946;116:129-31.