

Puzzling Penile Pore

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SUMMARY

An unusual case of a dilated pore presenting on the dorsal surface of the glans penis is described. A peculiar periorificial elastosis was noted histologically. The literature of dilated pores is reviewed, and the possible pathogenesis is explored. The conclusion is that the lesion represents a hamartomatous development similar to trichoepithelioma. Advice regarding management is given.

Dilated pores on the glans penis have not been described before in the English literature. A case of a puzzling lesion presenting on the dorsum of the glans penis of an elderly man is presented. Through histological examination and a review of the literature an attempt is made to classify the lesion and to discuss its management.

CASE REPORT

A 60-year-old Caucasian presented at the Dermatology Department of the Mayo Clinic with the complaint of an asymptomatic "hole" of six months' duration on the dorsum of his glans penis. The lesion had remained static in size since it was first noted. There was no inflammatory episode prior to the onset of the breached skin, nor could the patient recall any trauma or pre-existing lesion at the site. There was no history of other skin or mucous membrane lesions, nor family history of a similar problem. The patient had not noted any hair, cheesy material or blood extruding from the site. No treatment had been given.

Examination revealed a 2 mm. shallow, sharply margined depression on the dorsum of the glans roughly halfway between the urethral meatus and the corona penis (Figure 1). The lesion had no indurated edge; a keratotic base was visible in its depth. The keratinous basal material was not easily removed with a curette. The clinical diagnosis was a comedo-like pore. An elliptical excision biopsy was performed under local anaesthesia, with insertion of one stitch. This was removed after one week, and when reviewed one year later there was no evidence of recurrence.

General medical examination revealed asymptomatic diverticulosis and thalassemia minor. No other cutaneous abnormality was detected. Histological (H. and E.) examination revealed a normal epidermis lateral to the orifice, with some atrophy at the site of the actual ostium, leading into a thickened hypertrophic epithelial lining at the base. The stratum granulosum was present

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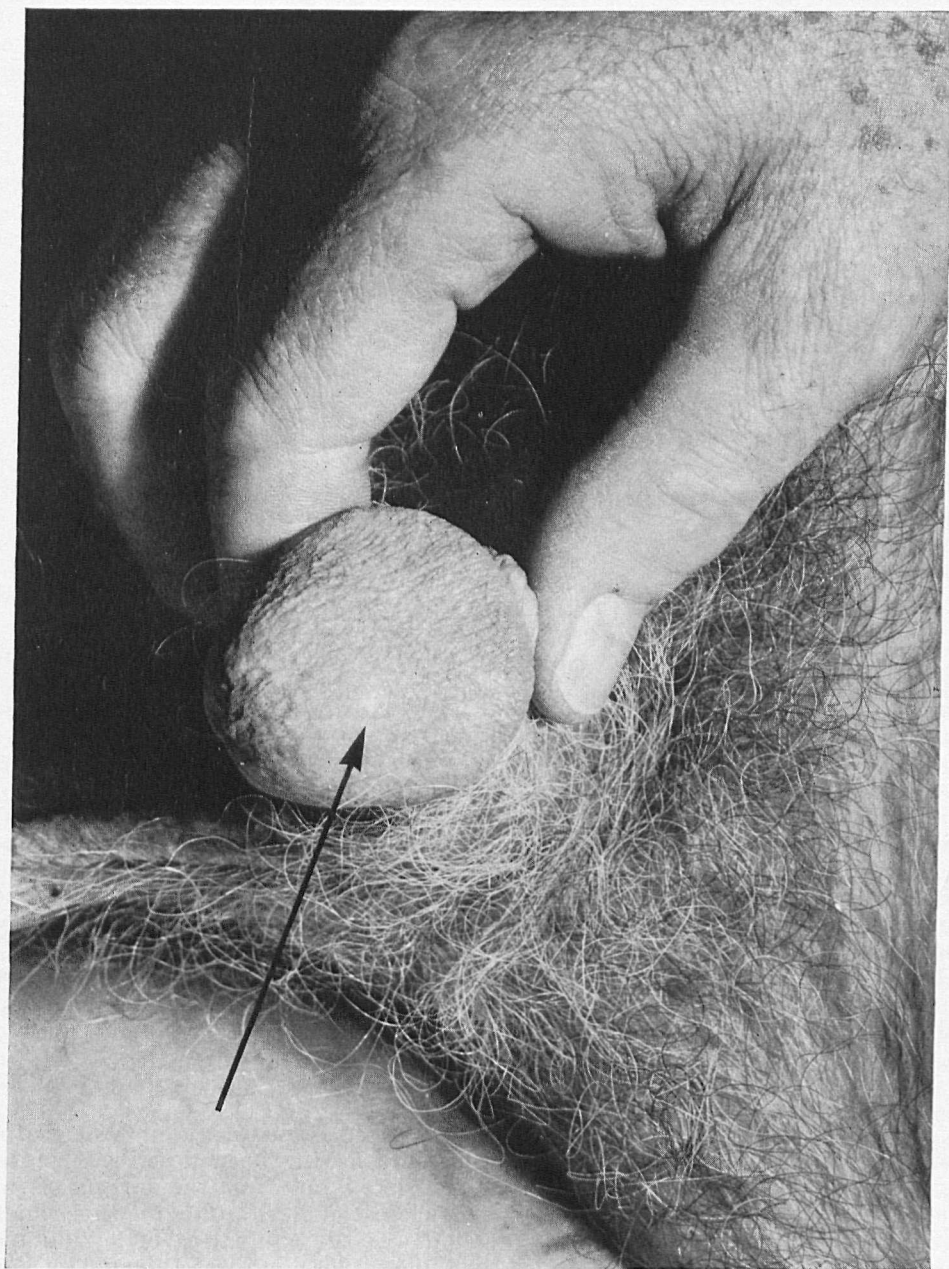


Figure 1 : Penile pore, 2 mm. in diameter on dorsum of glans penis roughly halfway between the urethral meatus and the corona.

throughout the lesion and beyond, and was of normal thickness. Some mild hyperkeratosis was noted peripheral to the lesion, but the base showed marked hyperkeratosis and keratotic debris. A keratotic plug extended into the full depth of the lateral proliferative extensions of the epidermis (Figure 2).



Figure 2: Edge of dilated pore, revealing hyperkeratosis and keratotic plugging, atrophy of ostial epidermis with basal and lateral proliferations of epidermis into a normal appearing penile dermis (H & E $\times 90$).

These latter, protruding for some distance beneath an overhanging lip of skin, showed marked papillomatous processes and in some places keratotic whorl formation. Similar, though smaller, proliferations and epidermal pegs were noted arising from the horizontal base of the lesion. No lanugo-type hairs or sebaceous glands were noted. H. and E. and alcian blue-PAS stains revealed an entirely normal-looking penile dermis with no excess accumulation of inflammatory cells. Schmidt-Elastin-Giemsa stain revealed a marked increase in amount and thickness of elastin-staining fibres in the overhanging lips of skin and around the lateral epithelial proliferations.

DISCUSSION

A search of the standard English texts of dermatology and dermatopathology reveals no evidence of a penile pore having been described before. Certainly, the occurrence of an acquired sinus-like "hole" on the dorsum of the glans penis must be very rare indeed. The closest clinical approximation which could be made for this puzzling depression was the equivalent of a "dilated pore". This condition was described by Winer (1954) and was thought by him to represent a secondary or acquired benign trichoepithelioma whose location was usually, but not necessarily, around the naso-labial or naso-facial folds. In the majority of instances the lesions were single, and males predominated over females nine to one.

Winer (1954) mentioned difficulties of differential diagnosis, especially if tangential histologic sectioning has been performed—e.g. seborrheic keratosis, cylindroma, basal cell carcinoma and intermediate cell carcinoma.

Sutton (1956) mentions that dilated pores may be found in areas subject to acne and comedo formation. According to him the patient has from time to time over a period of years expressed the comedo-like content, but the cavity has gradually enlarged, and the material in it has become more and more difficult to evacuate. Pinkus and Mehregan (1969) consider the dilated pore to be a very simple type of follicular outer root sheath neoplasia.

It is evident that authors have basically felt the pore to be a hamartomatous development from hair follicle structure rather than as a secondary complication of follicular and sebaceous duct blockage, as is the case with the acne-type comedone. No reference could be found in the literature to the presence of hair follicles on the glans penis. For all practical purposes this is an entirely glabrous structure. Ectopic sebaceous glands, however, are not uncommon on the mucocutaneous surface of the penis. These uni- or bilobulated glands, sometimes described as "Tyson's glands", are alleged to occur mainly in the balanopreputial fold (De Souza, 1931; Hyman and Guiducci, 1963). Not being associated with hair structures, they open directly on to the surface. The use of the term "Tyson's glands" has been deprecated recently (Hyman and Brownstein, 1969).

Some urologists have implicated these glands in the development of penile cysts, resulting from a retention of their contents. Goeckerman (1926) and Saalfeld (1899) mention the presence of sebaceous glands on the surface of the glans, usually on the distal portion, occasionally on its proximal part, but never in the middle. Bedi *et al.* (1971) mention the development of a keratinous hyperplastic horn on the dorsum of the penis, but this was on the basis of an irritated wart, and was present on the shaft rather than the glans. It is conceivable that the lesion in our patient could have developed into a penile horn.

There was no evidence of sebaceous gland contribution, nor was there any marked sign of abortive or primitive hair follicle formation in our patient's lesion. The histology was similar to that described by Winer—namely atrophic epidermis of the ostium with, deeper, the development of numerous epidermal pegs, proliferations and papillomatous processes. The epithelial overgrowth extending laterally beneath the orifice to a distance of a millimetre or more was also similar. The peculiar elastotic condition surrounding the lateral outgrowths has not been described previously. Histologically, the staining characteristic was identical with actinic or senile elastosis. Solar elastosis of the dorsum of the glans must be distinctly rare, except amongst nudists! The only comparable condition where marked solar elastosis is seen in association with comedo-like pores and cysts is the nodular elastosis of Favré-Racouchot (Lever, 1957).

It is likely that the dilated pore represents a hamartomatous development similar to trichoepithelioma. However, no direct proof for hair follicle or sebaceous origin has been determined. Future classification could probably be assisted through use of histochemical stains such as the alkaline phosphatase reaction, which outlines the follicular papillary vessels typically seen in trichoepitheliomas (Kopf, 1957). Though this lesion has apparently not been described before on the male or female genitalia, it is to be expected that further reports of similar lesions will be forthcoming, as has recently occurred with other benign adnexal tumours (Zalla and Perry, 1971; Brown and Freeman, 1971).

Dilated pores should probably best be treated by excision and suturing the resulting wound. If a cutaneous punch is used, one must be aware of the proliferative walls and use a corresponding large punch. Winer (1954) and Sutton (1956) recommend excising an area at least 2 mm. beyond the poral ostium (after first expressing the keratin contents to reduce the size of the lesions) lest one leave behind some of the acquired benign epithelioma. On the basis of the findings reported above, it seems that this advice should be heeded.

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