A Chronic Penile Ulcer in an Elderly Male

Case Report

A 70-year-old circumcised male presented with a one year old non-healing lesion on his penis. The lesion was generally asymptomatic except for occasional pain and burning sensation. The patient denied any unprotected high risk sexual exposure in the past. Examination revealed a solitary, non-tender, non-indurated superficial ulcer situated over the ventro-lateral aspect of the penis measuring approximately 3 cm × 3 cm involving the coronal sulcus and extending on to the shaft [Figure 1].

The margins were modestly defined and the floor appeared pink and glistening without any slough or hemorrhagic areas. There was no regional lymphadenopathy. Histopathological analysis revealed monomorphic round to cuboidal cells occupying the entire thickness of the epidermis and exhibiting overt atypia characterized by increased nucleus to cytoplasm ratio and numerous mitotic figures [Figures 2 and 3]. The basement membrane was intact.

Question

What is your diagnosis?

Figure 1: A solitary modestly defined superficial ulcer over ventro-lateral aspect of the coronal sulcus extending on to the penile shaft

Figure 2: A hyperplastic epidermis comprised of small to medium sized, round to cuboidal intensely basophilic cells with an intact basement membrane. Dermis shows superficial and deep perivascular infiltrate [H and E, Original magnification ×10]
The common clinical appearances of PeIN include chronic erythematous or pinkish macules, papules, or plaques with a flat or slightly elevated lobulated surface. The differentiated and undifferentiated forms, however, are clinically indistinguishable.

The differentiated (HPV unrelated) PeIN is characterized by hyperplastic epithelium with prominent parakeratosis, elongated and anastomosing rete ridges, and atypical basal cells with hyperchromatic nuclei. The cells demonstrate only subtle atypia and are intensely keratinizing with deeply eosinophilic cytoplasm. Focal complete keratinization is evidenced by keratin whorls and pearls in the deeper rete ridges.[2]

The basaloid type of undifferentiated (HPV related) PeIN is composed of monotonous basophilic small to medium sized “basaloid” cells that replace the entire thickness of the epithelium and exhibit prominent pleomorphism with an increased nucleus to cytoplasm ratio and frequent mitotic figures. A few focal koilocytes may be seen. The warty form is characterized by a prominently hyperkeratotic and papillomatous epithelium with prominent overlying parakeratosis and koilocytes. The individual cells show striking atypia as in the basaloid type. The warty-basaloid type has features of both. These undifferentiated PeIN can be low grade, high grade, or in situ carcinomas depending on the atypical cells occupying less than half, more than half, and the entire thickness of the epithelium, respectively.[2,3]

Immunohistochemically, p16INK4a is over-expressed by the undifferentiated PeIN (especially the basaloid type) and is negative with the differentiated PeIN.[2]

The management of PeIN is essentially surgical and the non-invasive character of the lesions allows penile conservative surgical measures. Medical (topical chemotherapeutics and immunomodulators) and physical (laser and photodynamic therapy) therapeutic modalities are also advocated but are associated with a recurrence rate as high as 30%. Hence, surgical treatment with long-term follow-up is recommended.[1]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his names and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.
References

1. Zreik A, Ismail M, Nigam R. Penile intraepithelial neoplasia: Management and outcomes. Hum Androl 2013;3:6-9.

2. Velazquez EF, Chaux A, Cubilla AL. Histologic classification of penile intraepithelial neoplasia. Semin Diagn Pathol 2012;29:96-102.

3. Velazquez EF. New concepts and entities in penile cancer pathology (International society of urological pathologists USCAP companion meeting program, Washington DC). Available from: http://uscapknowledgehub.org/site~99/1pdf/companion13h04.pdf. [Last accessed on 2019 Feb 8].

4. Soskin A, Vieillefond A, Carlotti A, Plantier F, Chaux A, Ayala G, et al. Warty/basaloid penile intraepithelial neoplasia is more prevalent than differentiated penile intraepithelial neoplasia in nonendemic regions for penile cancer when compared with endemic areas: A comparative study between pathologic series from Paris and Paraguay. Hum Pathol 2012;43:190-6.