Associated penile intraepithelial neoplasia (PeIN)[1-7] (Recommended)

Reason/Evidentiary Support

The pathological nomenclature and patterns of different forms of preinvasive lesions of the penis has been radically modified over the last few years with the abandonment of clinical terms such as Erythroplasia of Queyrat and Bowen's disease and the adoption of the encompassing term Penile Intraepithelial Neoplasia (PeIN) in pathological reports.

The new World Health Organisation classification of PeIN distinguishes three groups: 1. Non HPV related (differentiated or simplex), 2. HPV related (undifferentiated) PeIN (basaloid, warty and warty-basaloid) and 3. Others (pleomorphic, spindle, clear cell, pagetoid).[8] Undifferentiated HPV related PeIN shows full thickness warty and/or basaloid features (previously designated severe dysplasia/carcinoma in situ*)*. Differentiated PeIN usually involves only the basal layer and is associated with architectural atypia and aberrant keratinisation with features similar to that seen in precancerous lesions of the vulva. Undifferentiated PeIN is associated with p16 positivity and warty/basaloid invasive tumours but differentiated PeIN is associated with lichen sclerosis (balanitis xerotica obliterans), more commonly seen with verrucous and pseudohyperplastic tumours, and is usually p16 negative. It should also be noted that PeIN of any type is often multifocal.

The presence and subtype of PeIN should be reported together with its margin status independent of associated invasive tumour. The splitting of PeIN into subgrades (for example I-III or low-grade/high-grade) is not recommended by the authors. Written reports should indicate the subtype and extent of PeIN and whether or not there is margin involvement.

Precancerous lesions identical to differentiated and undifferentiated PeIN are seen in the distal penile urethra but there is no guidance on how to report them. Rather than designating these as carcinoma in situ or severe dysplasia, it may be advisable to also use the term PeIN in this context.

A potential problem arises when there are cytological abnormalities not thought to be severe enough to be designated as PeIN of either subtype. Then a category such as 'atypia falling short of PeIN' with a recommendation for follow up may be used, to avoid over treatment.

It is not necessary to report PeIN using the full dataset if it is the only abnormality present without invasive carcinoma.

Immunohistochemistry with p16 may be of help in subclassifying PeIN but is not regarded as mandatory. It may also be of use in identifying high-risk HPV in atypical condylomas.

References

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