

Diagnostic Microscopic Images: Condyloma Acuminatum and Scabies

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Abstract

Diagnostic microscopic images of condyloma acuminatum and scabies are presented with a brief discussion of the diagnostic features.

CASE 1

Biopsy of a 5-mm raised skin lesion from the vulva of a 25-year-old woman.

Figure 1

Figure 1: Low magnification, H& E stain.

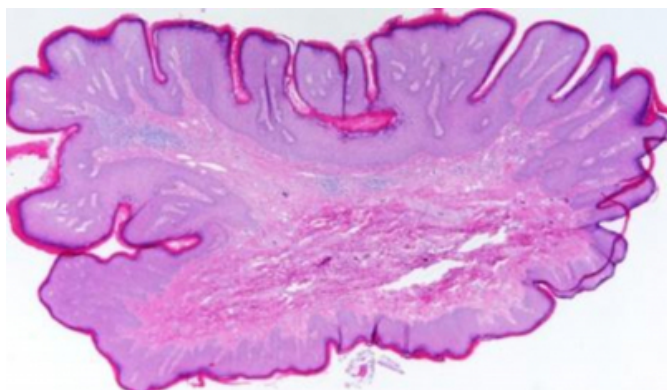


Figure 2

Figure 2: Higher magnification, H&E stain.

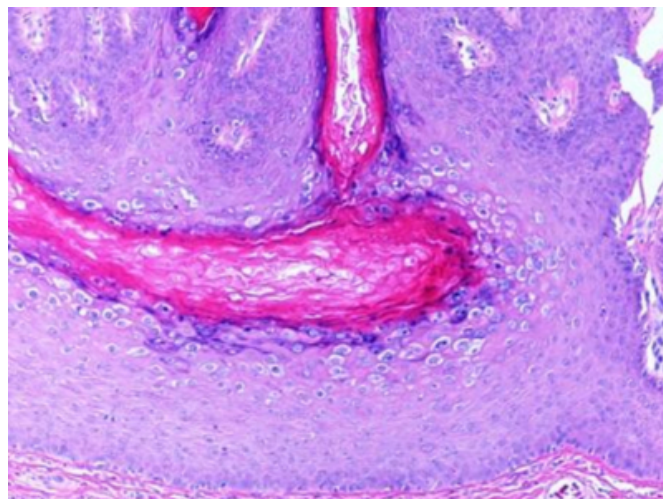


Figure 3

Figure 3: Lower magnification, low risk HPV by FISH.

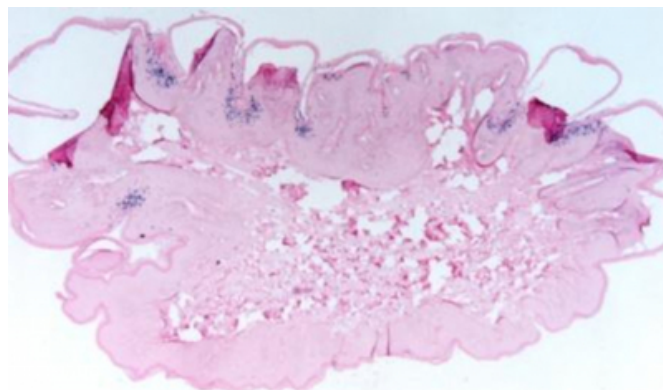
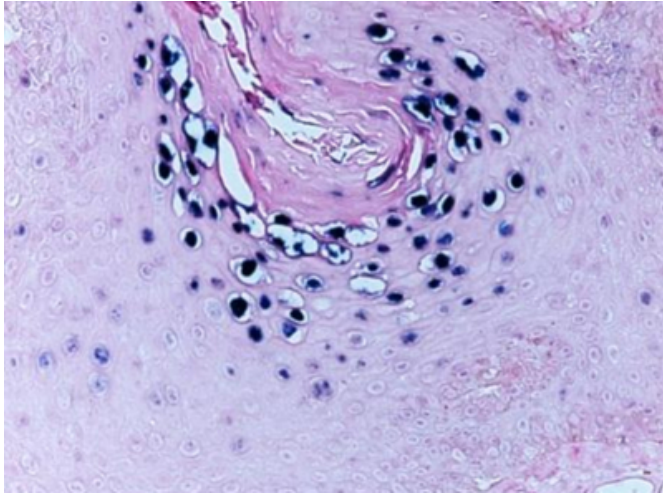


Figure 4

Figure 4: Higher magnification, low risk HPV by FISH.



Diagnosis: Condyloma acuminatum with positive low risk HPV.

COMMENT

Condyloma acuminatum (genital wart) is the most common viral sexually transmitted disease in the United States and is caused by human papilloma virus (HPV). Over seventy subtypes of HPV exist. Approximately half of these subtypes are specific for the anogenital epithelium and have varying potentials for malignant transformation. Low-risk subtypes, including HPV 6 and 11, do not integrate into the host genome and are most frequently associated with benign condylomas and low grade intraepithelial neoplasia [1,2,3,4].

Histologic examination of the skin (Figs. 1 and 2) lesion demonstrates papillomatosis accompanied by the characteristic features of acanthosis, parakeratosis, and hyperkeratosis. Koilocytosis of the keratinocytes suggests active viropathy. Such virus-infected keratinocytes show perinuclear clearing around large, centrally located nuclei with ground glass chromatin. Confirmation of low-risk HPV infection is achieved by FISH (Filter in situ hybridization), which demonstrates dark nuclear staining of the koilocytes (Figs.3 and 4).

CASE 2

Biopsy of an extremely pruritic rash on the right hand of a 20-year-old man with similar rash on the left foot. Previous biopsy was non-diagnostic.

Figure 5

Figure 5: Low magnification, H&E stain



Diagnosis: Scabies.

COMMENT

Scabies results from infestation by the mite *Sarcoptes scabiei* var. *hominis*. The result is a rash that is associated with an allergic reaction to the mite, its egg or feces. The rash may appear anywhere on the body but it occurs most commonly in the interdigital spaces, flexor surfaces of the wrist, axillae, waist, feet, and ankles. Other skin manifestations may include papules, blisters, eczematous changes, and nodules. Pruritus can be severe and is most prominent at night. It is speculated that this is due to the mite being most active during this time. Diagnosing scabies is usually done clinically, but laboratory confirmation of the diagnosis is done by skin scrapings or biopsy to microscopically demonstrate the mite, its egg(s) or feces [5,6].

Histologically, the lesion caused by the mite is the burrow that it creates within the stratum corneum. The burrow may go as far down as the stratum granulosum. The irritative effect of the mite's presence within the epidermis results in parakeratosis, spongiosis, vesiculation and eosinophilic infiltrates. Visualization of the mite, its egg(s) or feces is needed in order for definitive diagnosis. As depicted in Figure 5, the mite has a chitin exoskeleton with spines on its dorsal surface (A) that allow it to anchor itself within the epidermis. It also shows the internal organs (B) and two eggs (C).

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