**Slide diagnosis/topic:** Secondary syphilis (‘condyloma lata’)

**Case number:** MTT 3

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**Image link:**

**Case vignette:** 21 year old man with a 6 month history of a painful 5 cm “anal mass” presented to our institution for transanal excision.

**Discussion of slide diagnosis:** Sections reveal prominent irregular pseudoepitheliomatous hyperplasia with scattered cytologic atypia of basilar epithelial cells and a dense subjacent lichenoid infiltrate extending into the deeper aspects of the submucosa. The infiltrate consists mostly of plasma cells with admixed histiocytes, small mature lymphocytes and neutrophils, and there are scattered foci of prominent dilated vessels in the superficial submucosa. There is neutrophil exocytosis into the squamous mucosa with formation of neutrophilic microabscesses. Immunohistochemical studies demonstrate numerous spirochetes throughout the squamous epithelium and within the subjacent submucosa (including around vessels).

The etiologic agent of syphilis is *Treponema pallidum*. Secondary syphilis occurs in patients not treated for the primary chancre and is the consequence of hematogenous dissemination of the spirochetes. Secondary syphilis is characterized by a variable combination of weakness, fever, a localized or generalized skin rash, variable lymphadenopathy and in rare cases, warty lesions (condylomata lata). Many studies have attempted to harmonize the histopathologic patterns typical of secondary syphilis, and while some unifying themes exist, secondary syphilis remains an enigmatic mimicker with protean clinical and histopathologic cutaneous manifestations. Condyloma lata is a rare manifestation of secondary syphilis. Clinically, condyloma lata presents as broad, warty (mucosal) lesions with overlying ulceration. Histopathologic examination of condyloma lata is consistent and reveals marked pseudoepitheliomatous hyperplasia with an underlying dense lymphoplasmacytic inflammatory infiltrate, and commonly lymphocyte and neutrophilic exocytosis into the acanthotic and spongiotic squamous epithelium. Swelling of endothelial cells with surrounding inflammatory cells is also typical. Condyloma lata may mimic verrucous carcinoma which exhibits a similar pattern of epidermal acanthosis with exophytic and endophytic architecture. The squamous epithelium of verrucous carcinoma shows broad pushing downward projections of acanthotic rete usually with minimal atypia. The distinction is facilitated by (1) confirmation of Treponemal organisms in the tissue; (2) positive syphilis serologic studies (e.g. FTA-ABS, VDRL, RPR) and/or (3) resolution of the lesions with appropriate anti-Treponemal antibiotic therapy. A key to these is clinical and/or histopathologic suspicion for the disease. In the current case, numerous organisms were highlighted in the epithelium and submucosa, and the lesion resolved following intramuscular injection of penicillin. The diagnosis of secondary syphilis remains a challenge in dermatopathology because (1) neither the clinical nor the histopathologic features are typical in every case and (2) immunohistochemical studies for spirochetes can be negative in ~15-20% of cases of bona fide secondary syphilis.(1-3)

**Question 1:** The best diagnosis is:

A. Basal cell carcinoma  
B. Squamous cell carcinoma
C. Secondary syphilis (condyloma lata)
D. Verrucous carcinoma
E. Hypertrophic Lichen planus

Question 1: The best diagnosis is:

A. Basal cell carcinoma—Incorrect. Basal cell carcinoma is uncommon in the anus, but consists of nests of basaloid cells (with peripheral palisading of the basaloid cells) infiltrating the underlying dermis with a characteristic mucinous stromal reaction and retraction artifact.

B. Squamous cell carcinoma—Incorrect. The vast majority of squamous cell carcinomas (SCC) in the anus are related to high risk human papilloma virus (HPV) infection and consist of high grade most commonly non-keratinizing SCC.

C. Secondary syphilis (condyloma lata)—Correct. Sections reveal squamous mucosa with irregular pseudoepitheliomatous hyperplasia and a dense lichenoid infiltrate comprised of plasma cells with admixed histiocytes, small mature lymphocytes and neutrophils. Neutrophil exocytosis into the squamous mucosa is present with formation of neutrophilic microabscesses. Immunohistochemical studies confirm numerous spirochetes within the squamous epithelium and within the subjacent submucosa (including around vessels).

D. Verrucous carcinoma—Incorrect. Verrucous carcinoma was a definite consideration in this case as squamous mucosa exhibited verruciform epithelial hyperplasia with broad pushing borders. However, verrucous carcinoma is uncommon among younger patients, lacks neutrophilic microabscess formation and endothelial swelling and does not contain treponemal organisms.

E. Hypertrophic Lichen planus—Incorrect. Although hypertrophic lichen planus (LP) is an important differential diagnostic consideration histopathologically, the depth of the inflammatory infiltrate and the presence of epithelial neutrophilic microabscesses in the current case mitigate against this possibility. Also hypertrophic LP typically does not present as a tumor lesion and is uncommon in the anus.

References: