Case 1

Diagnosis: Pseudoepitheliomatous hyperplasia associated with CD30+ lymphoproliferative disease

Histology:
- Irregular proliferation of the epidermis
- Keratinocytes with glassy cytoplasm
- Atypical lymphocytes intimately associated with the epidermal proliferation

Case History:

This 57 year old woman presented for evaluation of multiple keratotic nodules. Biopsy revealed irregular acanthosis of the epidermis and an infiltrate of atypical lymphoid cells in the dermis. Gene rearrangement studies confirmed the presence of monoclonal lymphocytes. CD30 and CD3 stains confirmed that the large and atypical neoplastic cells were T lymphocytes. A cytokeratin stain highlighted the associated irregular proliferation of keratinocytes. Simple excision of multiple nodules revealed varying degrees of epidermal hyperplasia and pseudoepitheliomatous hyperplasia associated with the atypical lymphoid infiltrate. None of the lesions recurred after simple excision, and lesions improved with treatment of the underlying lymphoproliferative disorder.

Discussion:

The concepts associated with CD30+ lymphoproliferative disease have expanded greatly since the first description of lymphomatoid papulosis in 1968. Anaplastic large cell lymphoma was originally described as “regressing atypical histiocytosis”, but molecular testing and immunohistochemical marker
studies coupled with sophisticated genomic evaluation have revealed that CD30+ lymphoproliferative
disease represents a spectrum of disease extending from localized indolent disease to aggressive
lymphoma. Differences in underlying genetic abnormalities and host response are thought to be
important determinants in shaping the ultimate phenotypic expression of an individual patient’s disease.

Reports of CD30+ lymphoproliferative disease now include clinical presentations such as the
classic and typical clustered lesions of lymphomatoid papulosis, solitary ulcerated tumors, angioinvasive
lesions, presentations associated with mycosis fungoides as well as many other clinical presentations.
Pseudoepitheliomatous hyperplasia is still fairly uncommonly encountered in the setting of cutaneous
lymphoma and lymphoproliferative disease, but is increasingly recognized as one of many possible
presentations, especially in lymphomas associated with a prominent infiltrate of neutrophils and
eosinophils. Cytokines EGF, TGF-alpha, and IL-5 are thought to play a role in the development of the
epithelial hyperplasia in such cases. Researchers have suggested that CD30+ lymphoid cells may prevent
CD95 combining with the CD95 receptor, which disrupts “apoptotic homeostatic mechanisms of
keratinocyte growth”. CD30+ lymphoid cells may also directly secrete growth factors that lead to
keratinocyte proliferation. Th17/Th22 cytokines may be involved as well as interferon gamma-induced
proinflammatory cytokines produced by keratinocytes.

A recent poster at the 2014 ASDP meeting catalogued the distinct reported subtypes of
lymphomatoid papulosis (Table I). These types include the most common presentation with a mixed
infiltrate including transformed lymphocytes in the dermis, a mycosis-fungoides-like epidermotropic
pattern, sheets of transformed cells mimicking aggressive lymphoma, a cytotoxic phenotype, and
angioinvasive pattern, and a biphasic pattern associated with a 6p25.3 chromosomal rearrangement.

Although the keratinocytic proliferation in cases such as this may closely mimic squamous cell
carcinoma in some instances, lesions respond well to simple excision. The underlying lymphoid infiltrate
seems to be the “driving force” associated with the epidermal changes. If you are aware of a case where
the keratinocytic/epidermal component of such a lesion is associated with an aggressive clinical course, I
would be very interested in learning about your case.
Table I (from Bax M et al. Pseudoepitheliomatous hyperplasia associated with CD30+ lymphoproliferative disease. A potential mimic of squamous cell carcinoma. Poster presentation at the American Society of Dermatopathology Annual Meeting. 2014) :

Type A  Mixed dermal infiltrate of large transformed lymphocytes associated with neutrophils and eosinophils
Type B  Predominance of epidermotropic intraepidermal lymphocytes with a mycosis fungoides-like pattern
Type C  Sheets of atypical lymphocytes in the dermis with variable epidermotropism
Type D  Epidermotropic cytotoxic CD8+ phenotype
Type E  Ulcerative angioinvasive and oligolesional LyP
Type F  Biphasic pattern with smaller lymphocytes in the epidermis, larger atypical lymphocytes in the dermis, and chromosomal rearrangement of the DUSP22-IRF4 locus on 6p25.3
Type G  Prominent pseudoepitheliomatous hyperplasia mimicking squamous cell carcinoma
Type H  Pityriasis lichenoides et varioliformis acuta –like presentation of lymphomatoid papulosis

References:


Case 2

**Diagnosis:** Zosteriform lichenoid eruption post herpes zoster

**Clinical History:** A 56-year-old woman had a persistent eruption on the right postero-lateral thigh.

**Histology:**
- Lichenoid inflammation
- Necrotic keratinocytes
- Superficial and deep infiltrate

**Discussion:**

The histologic findings in this case raise a broad differential diagnosis that include a variety of lichenoid dermatoses including a drug eruption, a lichenoid lesion of graft vs. host disease, lupus erythematosus, lichen planus, as well as other lichenoid eruptions. The clinical images reveal a dermatomal distribution of lesions rather than lesions confined to Blaschko’s lines. Viral cytopathic effect is not identified. Careful history revealed that the quality of the eruption had changed. The patient had discomfort before a vesicular and erosive eruption developed, and later developed pruritic lichenoid papules. The clinical and histologic information best supports a diagnosis of a lichenoid eruption occurring after herpes zoster infection. How herpes zoster elicits some of the unusual vascular, granulomatous, or lichenoid sequelas in affected dermatomes is unclear. Some investigators have indicated that the cutaneous reactions appearing in areas affected by herpes zoster are not due to the persistence of varicella-zoster virus DNA within the lesions but rather persistence of viral envelope glycoproteins, but this is still an area of active study.
References:


