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Paraneoplastic Pemphigus presenting like Toxic Epidermal Necrolysis

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Case Presentation:

Patient: 59 year-old Caucasian male.

History of Present Illness: The patient presented to Lehigh Valley Hospital burn unit after being transferred from an outside hospital with a painful, desquamating, blistering, erythematous rash involving the entire body with erosions on the eyes, mouth and nasal mucosa. He complained of a worsening, blistering rash that began four months prior. His symptoms began with a sore throat and progressed to blisters and erosions involving his mouth, lips and neck and subsequently spread to his body. He initially saw his PCP who treated his oral lesions with several courses of antivirals under the suspicion of herpes simplex virus infection. However, viral cultures were negative. Patient had been diagnosed with B-cell lymphoma six months prior to presentation but his treatment was deferred pending resolution of his suspected HSV infection. He has a history of psoriasis, previously treated with adalimumab which was discontinued after the diagnosis of his B-cell lymphoma.

Medical/Surgical History: Follicular B-cell lymphoma, psoriasis, hypothyroidism

Current Medications: Valacyclovir, levothyroxine, citalopram, hydrocodone, triamcinolone acetonide 0.1% ointment

Previous Medications: Fluoruracil 5%, doxycycline, clobetasol proprionate 0.05% cream

Physical Examination: Patient has generalized exfoliative erythroderma with flaccid bullae and erosions covering his entire body surface. There are crusted hemorrhagic erosions involving his lip, eclabion and ectropion.

Laboratory Data: Skin Autoantibody Profile Positive, "Monkey Esophagus IgG: Positive. Presence of IgG antibodies supports pemphigus and its variants including paraneoplastic pemphigus."

Patient was placed on comfort measures before ELISA and indirect immunofluorescence testing using rat bladder could be performed.

Biopsy: *Health Network Laboratories (1690266, 1/27/15).* Right upper back superior: "Interface dermatitis characterized by necrotic keratinocytes at all levels of the epidermis. There is suprabasal clefting and acantholysis and a mild to moderate superficial dermal lymphohistiocytic infiltrate. Eosinophils are not identified." Direct immunofluorescence: "Positive focal linear granular basement membrane of C3. IgG, few scattered cytoids; IgM: Several scattered cytoids; IgA, several scattered cytoids."

Diagnosis: Paraneoplastic Pemphigus presenting like Toxic Epidermal Necrolysis

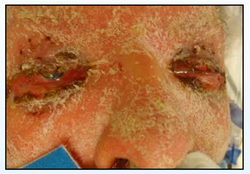

Figure 1: Generalized erythroderma with ectropian.

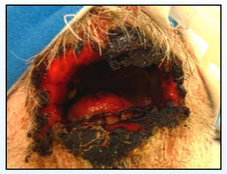

Figure 2: Chronic stomatitis causing hemorrhagic crusting.

Figure 3: Generalized exfoliative erythroderma.

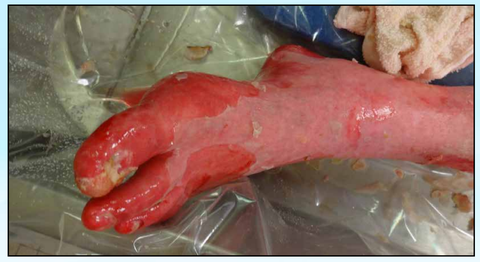

Figure 4: Skin sloughing of his L foot.

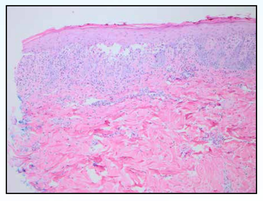

Figure 5: Punch biopsy of Back, Magnification 10x. Interface dermatitis characterized by necrotic keratinocytes at all levels of the epidermis.

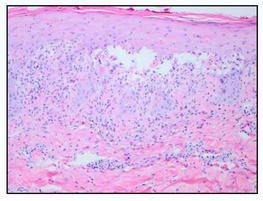

Figure 6: Magnification 20x.

Discussion:

Paraneoplastic pemphigus (PNP) is an autoimmune bullous skin disease initiated by an underlying malignant or benign neoplasm. It was first described in 1990 by Anhalt et al. with proposed diagnostic criteria including: the presence of painful, progressive stomatitis, histopathologic changes of acantholysis or interface dermatitis, demonstration of anti-plakin antibodies, and presence of an underlying neoplasm, typically lymphoproliferative. Associated neoplasms include non-Hodgkin lymphoma, Hodgkin lymphoma, chronic lymphocytic leukemia, Castleman disease, thymoma, Waldenstrom macroglobuliemia, sarcomas and malignant melanoma. This disease affects both males and females equally with no racial predilection. It has most often been reported in patients aged 45-70 but has occurred in children as young as 7 years old. Patients typically present with intractable stomatitis. The skin eruption is variable and can range from diffuse erythema, erythematous macules and papules, scaly plaques, vesiculobullous lesions, erosions to exfoliative erythroderma. PNP has also been seen on biopsy in the gastrointestinal tract and respiratory tract mucosa. Bronchiolitis obliterans can result and be fatal to most patients. When it affects conjunctival tissue, it can cause severe pseudomembranous conjunctivitis that can lead to corneal scarring.

Histopathologically, PNP demonstrates dyskeratosis, acantholysis, and an interface dermatitis. Direct immunofluorescence shows IgG and C3 deposition in the intercellular spaces of the epithelium. Indirect immunofluorescence on transitional epithelium such as rat bladder can show a similar pattern. Immunoprecipitation will show autoantibodies directed against desmoplakin, envoplakin, BPAg1, and periplakin. ELISA can be used to detect antibodies to desmoglein 1 and 3, anti-envoplakin and anti-periplakin autoantibodies. The differential diagnosis includes other blistering diseases such as bullous pemphigoid, cicatricial pemphigoid, pemphigus vulgaris, and epidermolysis bullosa. When mucosal surfaces are affected along with areas of denudation and skin sloughing, Stevens-Johnson Syndrome/Toxic epidermal necrolysis (TEN) should be considered.

Our patient had PNP but his skin changes progressed rapidly and led to skin sloughing which presented like TEN. His histopathologic findings and history of an underlying malignancy supported the PNP diagnosis. Of note, Yamada et al described a case of PNP mimicking TEN associated with B-cell lymphoma. Managing PNP and TEN can be similar but medication cessation will not benefit PNP. Treatment for PNP is difficult and most patients respond poorly. Treating the underlying malignancy may control autoantibody production and the use of corticosteroids is generally the first line therapy. Skin and mucosal lesions should be treated with non-adherent wound dressings to prevent infection. Other immunosuppressants such as cyclophosphamide, cyclosporine A, plasmapheresis, immunophoresis, IV gammablobulin, and rituximab have been used but with varying results.

References:

1. Anhalt GJ. Paraneoplastic pemphigus. *J Investig Dermatol Symp Proc.* 2004 Jan. 9(1):29-33.
2. Hertzberg MS, Schifter M, Sullivan J, Stapleton K. Paraneoplastic pemphigus in two patients with B-cell non-Hodgkin's lymphoma: significant responses to cyclophosphamide and prednisolone. *Am J Hematol.* 2000 Feb. 63(2):105-6.
3. Yamada T, Nakamura S, Demitsu T, et al. Paraneoplastic pemphigus mimicking toxic epidermal necrolysis associated with B-cell lymphoma. *The Journal of Dermatology.* 2013;(286-288).

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