CASE # 1

PRESENTERS: Kirstin Altman MD, Rita Lloyd MD, B. Jack Longley MD

HISTORY: A 72 year-old Hispanic man, presented to clinic with a one year history of very pruritic, annular skin lesions located on his trunk and extremities. Bullous lesions were denied by the patient. He was otherwise healthy and denied any precipitating illness, medication changes or other possible triggers.

PMH: Seasonal Allergies, Hyperlipidemia

MEDICATIONS: Atorvastatin, Niacinamide, Solifenacin

FAMILY HISTORY: Non contributory

EXAM: Numerous annular and polycyclic erythematous plaques were noted on the trunk, sacrum and extremities, including large polycyclic plaques on the thighs. Most plaques showed an erythematous border with no overlying scale. There was no evidence of vesicles or pustules. The head, mucosal membranes, palms and soles were spared.

HISTOLOGY: Hematoxylin-Eosin staining shows histiocytes with subtle palisading compatible with granuloma annulare. PASD staining was negative and Alcian blue staining revealed slight increase in dermal mucin. Direct immunofluorescence showed linear deposits of C3 and IgG at the dermal-epidermal junction.

DIAGNOSIS: Granuloma annulare-like presentation of Bullous Pemphigoid

TREATMENT: Initial treatment consistent of oral prednisone, minocycline, niacinamide and topical clobetasol. Due to the good response, prednisone was tapered and his lesions are currently controlled with minocycline, niacinamide and topical clobetasol ointment.

DISCUSSION: We favor the diagnosis of an atypical non-bullous presentation of pemphigoid over granuloma annulare, given the associated severe pruritus and the improvement with treatment tailored to bullous pemphigoid.

Bullous pemphigoid is an acquired autoimmune blistering disease, most commonly seen in the elderly. The classic presentation is characterized by diffuse distribution of tense blisters on normal to erythematous skin, associated with pruritus. The clinical spectrum is broad and includes patterns more typical of dyshidrosis, seborrheic dermatitis, or findings in a localized distribution.1-3 Atypical morphologies that have been described include vesicular eruptions, vegetative lesions, prurigo nodules, ulcers, and figurate erythemas.4-6

Diagnosing atypical presentations of bullous pemphigoid can be challenging. The correct diagnosis often relies on clinical suspicion, which can be confirmed by histologic and immunopathologic examination. As in classic pemphigoid, direct immunofluorescence will show linear C3 and/or IgG deposition. Treatment is also the same for all clinical presentations; topical and systemic corticosteroids, along with other immunosuppressive medications and anti-inflammatory drugs like minocycline. Increased risk of malignancy has been a concern, but studies have failed to confirm this. Atypical presentations of bullous pemphigoid may warrant further work up.5
Bullous pemphigoid is a common blistering disease. Many different clinical variants have been described, all of which appear to have severe pruritus in common. Recalcitrant or very severe pruritic cutaneous eruptions should prompt the suspicion for bullous pemphigoid.

**KEY POINTS**

- Bullous pemphigoid is a common blistering disease, which can present in many clinical variants, all of which have severe pruritus in common.
- The spectrum of presentations includes figurate erythemas, vegetative lesions, eczema, generalized pruritus and as in our case a granuloma annulare like appearance.
- DIF can be helpful to establish the correct diagnosis.
- Treatment includes topical and systemic steroids, along with immunosuppressive medications.

**REFERENCES:**

CASE # 2

PRESENTERS: Lydia Turnbull MD, Harry Sharata MD PhD, Lisa Muchard MD, B. Jack Longley MD

HISTORY: A 56 year-old man with past medical history of hepatitis B infection, hypertension, diabetes mellitus type II and chronic obstructive pulmonary disease presents with a 4-week history of a new rash affecting the bilateral hands and feet. He was initially treated at an outside facility as nummular eczema with triamcinolone cream, then treated for a presumed scabies infestation with permethrin cream, both without improvement. His symptoms progressed to involve myalgias, arthralgias, left foot weakness and development of palpable purpura and ulcerations on bilateral legs. He claimed no recent history of flu-like illness, travel, new medications or drug use. No family history of dermatologic, rheumatologic or autoimmune disease.

SOCIAL HISTORY: Active tobacco use

MEDICATIONS: Chlorthalidone, Mirtazapine for sleep disturbance, Meloxicam, Metoprolol, Omeprazole

EXAM: Examination of bilateral dorsal hands, bilateral abdominal flanks and legs shows 1-2 mm petechial red macules. On the bilateral lower legs there are large 2-4 cm necrotic eschars with surrounding flaccid bullae and petechiae. Distal popliteal and posterior tibial pulses palpable bilaterally. No burrows, oral sores or lymphadenopathy.

LABS: Pertinent abnormal results: ESR 98 mm/Hr, CRP 18.7; ANA 1:40 speckled, HBcAb, HBsAb
Pertinent normal/negative results: CBC, BMP, LFTs, HBsAg, HB viral DNA, RPR, ANCA titers, anti-proteinase 3, anti-myeloperoxidase, C3, C4, SPEP, UPEP, HIV, HCV, cryoglobulins, blood and surface cultures

HISTOLOGY: Histopathologic evaluation of an excisional biopsy taken from the left medial leg demonstrates epidermal ulceration with necrosis of the underlying dermis. Leukocytoclasis and extravasated erythrocytes are present in the superficial papillary dermis. Near the junction of subcutaneous fat and deep dermis there is a medium sized vessel containing fibrinoid material. There are neutrophils transversing the vessel wall. PASD negative. Direct immunofluorescence (DIF) studies are negative.

DIAGNOSIS: Polyarteritis nodosa

TREATMENT AND COURSE: The patient was started on prednisone 60mg daily and received 6 monthly intravenous infusions of cyclophosphamide (900mg each visit) with mesna given pre and post infusion. He was started on entecavir due to high risk of HBV reactivation during immunosuppression. His treatment course was complicated by recurrent pseudomonas infection of bilateral leg wounds and recurrent aspiration pneumonitis due to narcotic overdose. Bilateral leg wounds were managed with Aquacel and ACE wraps with improvement of ulcerations upon completion of cyclophosphamide. The patient reported resolution of the peripheral neuropathy affecting his left foot. He continues on prednisone 10mg daily.

DISCUSSION: Polyarteritis nodosa (PAN) is a rare systemic necrotizing vasculitis that involves medium-sized blood vessels. Classic PAN primarily affects men between 40 to 60 years of age. A “skin limited” cutaneous PAN is more common in children and follows a benign course.1 The etiology of PAN is unclear however it has been associated with...
infections, hematologic malignancy (hairy cell leukemia), inflammatory diseases (inflammatory bowel disease, systemic lupus) and medications (minocycline).\textsuperscript{1,2} Hepatitis B (HBV) is the most commonly implicated infection in the development of PAN. Before HBV vaccination was available about one-third of adults with PAN were infected with HBV. Currently less than 5% of patients with PAN are HBV-infected. Albeit less commonly, hepatitis C virus (HCV) has also been associated with classic PAN. The duration of infection prior to development of PAN is thought to vary, HBV-related PAN being less than a year and HCV-related PAN being approximately 20 years.\textsuperscript{3} Streptococcal, cytomegalovirus (CMV), parvovirus B19 and human immunodeficiency virus (HIV) infections are more commonly implicated in children with cutaneous PAN.\textsuperscript{1,2}

The clinical presentation of classic PAN is variable depending on the vessels involved. Approximately 25% of patients with classic PAN will have cutaneous findings including palpable purpura, livedo racemosa, painful subcutaneous nodules, retiform purpura and ulcers. Systemic manifestations of classic PAN are common and present as fevers, weight loss, arthralgias, paresthesias (mononeuritis multiplex), myalgias, abdominal pain and dyspnea. Presence of mesenteric ischemia heralds a poor prognosis.\textsuperscript{1,2} Differences between the clinical presentation of HBV and HIV-associated PAN have been described by Patel et al.\textsuperscript{4} HIV-associated PAN follows a more benign course while HBV follows a more severe course with a higher risk of gastrointestinal, neurologic and renal involvement.\textsuperscript{1,2,4}

The differential diagnosis includes medium vessel vasculitides such as microscopic polyangiitis (MPA) and granulomatosis with polyangiitis (GPA). Distinction from these entities is made in combination with clinical presentation, deep skin biopsies showing a segmental necrotizing vasculitis of medium sized arteries and negative ANCA titers. PAN displays variable DIF staining patterns and non-specific laboratory markers. Microaneurysms of renal, mesenteric or celiac arteries with magnetic resonance angiography are highly suggestive of classic PAN.\textsuperscript{1,2}

The prognosis of PAN is dependent on organs involved and, unlike MPA and GPA, is thought to have a low relapse rate. Treatment of classic PAN is targeted towards immunosuppression, initiating oral corticosteroids 1 mg/kg/day for mild disease and reserving monthly pulsed intravenous cyclophosphamide (0.6g/m^2) for more severe disease. Monthly pulsed cyclophosphamide is preferred to oral cyclophosphamide because of a better safety profile. In HBV-associated PAN concurrent anti-virals are an effective adjunct to therapy.\textsuperscript{5}

**KEY POINTS**

- Polyarteritis nodosa is a systemic segmental medium vessel vasculitis in which about 25% of patients will have cutaneous disease. Palpable purpura is the most common cutaneous manifestation of PAN.
- Diagnosis of PAN is difficult and relies on clinical presentation, biopsies showing a medium vessel vasculitis and negative ANCA titers.
- A thorough evaluation for infection including HBV, HCV, HIV, parvovirus B19 and CMV serologies should be done if PAN is suspected.
- Reducing viral loads with HBV-associated PAN can lead to disease remission.

**REFERENCES:**

CASE # 3

PRESENTERS: Joanna McGetrick MD, Mark Moss MD, Daniel Bennett MD

HISTORY: 33 year-old F w/ h/o chronic idiopathic urticaria, pruritus, and dermatographism who presented initially for itching. She has had chronic urticaria for many years but in the last 3 years developed daily widespread pruritus without hives. While initially unsure of any triggers, she began to notice that her symptoms coincided within the 3 weeks that she had the NuvaRing versus the week that she does not have the NuvaRing. She then noted resolution of her symptoms during two short pregnancies that unfortunately ended in miscarriage. Because of the cyclical nature of her symptoms and the changes during pregnancy it was questioned whether or not she could have autoimmune progesterone dermatitis.

Treatment failures included montelukast, cetirizine, hydroxyzine, cyproheptadine, loratidine, and diphenhydramine. Evaluation by Allergy revealed a positive intradermal test to progesterone as well as a positive patch test to progesterone, consistent with autoimmune progesterone dermatitis.

Normal labs have included: TTG, LFT, BMP, CBC w/ diff, TSH, trptase, chronic urticarial index level, IgE, serum IgE tests for soy, milk, wheat, corn, ANA, ANCA, Antiphospholipid Ab.

MEDICATIONS: Diphenhydramine, hydrocortisone cream

EXAM: Well appearing woman in NAD. Skin exam revealed 2 linear urticarial plaques consistent with dermatographism on her leg and back w/ evidence of excoriation. Review of photographs show multiple, large, urticarial plaques mainly on the legs.

DIAGNOSIS: Autoimmune progesterone dermatitis

TREATMENT AND COURSE: As the patient is currently attempting pregnancy, she has opted to stop all antihistamines and is currently being treated with nbUVB which good results.

DISCUSSION: Autoimmune progesterone dermatitis (APD) is a rare cyclic reaction induced by progesterone produced during the luteal phase of the menstrual cycle. This has been reported to have multiple presentations, including erythema multiforme, eczema, urticaria, angioedema, and anaphylaxis. It was first described in 1921 by Gerber, when he described a hormonal allergy that he demonstrated by inducing a flare in a woman who was injected with her own premenstrual serum.

There are multiple theories for the etiology of APD. Some possibilities include stimulation of Th2 cells by progesterone, which in turn upregulated IgE, direct effects of progesterone on mast cells, or progesterone serving as an autoantigen.

Several different patterns of symptomatology can be seen in pregnancy. The onset of the progesterone sensitivity can manifest during pregnancy, but more commonly in the postpartum period as the menstrual cycle regulates. It can also be seen to occur before pregnancy and worsen during pregnancy, which has been found to be associated with spontaneous abortions. Paradoxically, and in the case of our patient, there are many patients whose symptoms improve at exactly the time in pregnancy when the levels of progesterone are highest. This is also seen in many other allergic diseases and is poorly understood.
Testing for APD involves skin testing with aqueous progesterone which is performed typically in an Allergy clinic given the risk of anaphylaxis. A positive test is found when the progesterone creates a skin or systemic reaction after injection.  

Various treatments have been used for the various presentations of APD. Antihistamines are usually not effective. Systemic glucocorticoids can be of use during exacerbations. Previously, desensitization with progesterone has been used as has simply preventing ovulation with conjugated estrogens. This was done mainly before the risks of endometrial carcinoma were known from using unopposed estrogens. There are many reports of using medications such as danazol, stanazol, or tamoxifen to prevent ovulation. There are also cases of using danazol prophylactically before the onset of menses with no interference with the menstrual cycle and avoiding some of the side effects of long-term use of danazol. LH-RH agonists can also be used to prevent ovulation. For pts with severe or refractory cases, surgical castration is commonly used. It should be noted that this condition does spontaneously remit in many cases.

KEY POINTS

- Autoimmune progesterone dermatitis (APD) is a rare cyclic reaction induced by progesterone produced during the luteal phase of the menstrual cycle.
- Pregnancy can have various effects on this condition and may worsen, or paradoxically, improve the condition.
- Testing for APD involves skin testing with aqueous progesterone.
- There are various treatments that can be used, most with the goal of suppressing ovulation by either chemical or surgical means.

REFERENCES:

CASE # 4

PRESENTERS: Mandi Bietz MD, Gary Wood MD, Lisa Muchard MD, Daniel Bennett MD

HISTORY: A 68 year-old male with a history of stage IV marginal zone lymphoma diagnosed in 2010 status post 8 cycles of rituximab and bendamustine in 2010 and 6 cycles of rituximab in January 2014, considered to be in remission, presents with a 6 week history of slowly worsening erythematous rash. He was treated with oral prednisone at this time without improvement. Then two weeks prior to presentation his rash evolved into skin pain and extensive sloughing with involvement of the oral cavity. He was seen and biopsied by an outside dermatologist. His oral prednisone dose was increased and his prophylactic acyclovir, fluconazole, and sulfamethoxazole-trimethoprim were discontinued. After continuing to deteriorate he was admitted to an outside hospital and then transferred to UW Madison.

MEDICATIONS: (Fluconazole, acyclovir, TMP-SMX) stopped two weeks prior to admission, (methylprednisolone, mycophenolate mofetil, IVlg, vancomycin, meropenem) one dose each prior to transfer, vitamin D, multivitamin, cimetidine

ALLERGIES: Rituximab-severe infusion reaction requiring early termination of most recent chemotherapy regimen

EXAM: Significant for erythematous papules coalescing into plaques on trunk and extremities, intact large bullae on palms, soles, dorsal hands, and thighs, large sheets of desquamation with underlying denuded skin on chest, arms, legs, genitals, and entire back, erosions and crusting on cutaneous lips with erosions on mucosal surface of lips, tongue, and gingivae, and conjunctival infection with periorbital erosions and crusting.

HISTOLOGY: Histopathologic evaluation of an outside specimen showed an intraepidermal cell poor blister with suprabasilar acantholysis. There were necrotic keratinocytes along the basal layer and there was a superficial lymphocytic infiltrate. There was very focal full thickness keratinocyte necrosis with an overlying scale-crust containing degenerating inflammatory cells. Direct immunofluorescence demonstrated epithelial cell surface and granular basement membrane zone immunofluorescence of IgG and C3. Indirect immunofluorescence demonstrates intracellular staining on both monkey esophagus and rat bladder transitional epithelium.

LABORATORY: ELISA for desmoglein 1 and desmoglein 3 positive

DIAGNOSIS: Paraneoplastic pemphigus

TREATMENT AND COURSE: The patient was treated with high-dose prednisone, mycophenolate mofetil, cyclophosphamide, and prophylactic antivirals, antifungals, and antibiotics. Consideration of plasmapheresis or further doses of IVlg was discussed with the patient, but due to his continued decline on immunosuppression he decided to pursue hospice care and expired three days after discharge.

DISCUSSION: Paraneoplastic pemphigus (PNP) is a rare autoimmune blistering disease associated with benign and malignant neoplasms first described in 1990 by Anhalt, et al.\(^1\) Common associated neoplasms include non-Hodgkin lymphoma, chronic lymphocytic leukemia, Castleman’s disease, thymomas, sarcomas, and Waldenström’s macroglobulinemia.\(^2\)
Characteristically, PNP presents with severe and intractable erosions and ulcerations affecting all surfaces of the oropharynx.\textsuperscript{2,3} Cutaneous findings can be polymorphic, and presentations have included lichenoid erythematous macules and plaques, erythema multiforme-like targetoid eruption, bullous pemphigoid-like tense blisters, pemphigus vulgaris-like flaccid blisters, and toxic epidermal necrosis-like sheets of desquamation. Systemic complications include involvement of the lungs in 30-92\% of patients, often leading to bronchiolitis obliterans.\textsuperscript{2,3,4}

Histologic features include acantholysis and keratinocyte necrosis, but can be as variable as the clinical presentation.\textsuperscript{3} Direct immunofluorescence shows IgG and C3 intercellularly in the epidermis and sometimes along the basement membrane, while indirect immunofluorescence shows antibodies against intercellular spaces using both rat bladder and monkey esophagus substrate.\textsuperscript{1,2,3,5} ELISA is positive against desmoglein 1 and 3, envoplakin, periplakin, desmoplakin I and II, and BP\textsubscript{Ag}1, although immunofluorescence is the most sensitive and specific test for PNP.\textsuperscript{5}

Treatment is uniformly disappointing and mortality has been reported to be as high as 90\%.\textsuperscript{3,6} Treatment of the underlying neoplasm is the best approach along with supportive cares. Suppression of the antibody-mediated and cell-mediated toxicity has been attempted by numerous immunosuppressive medications and immunomodulators including corticosteroids, cyclophosphamide, mycophenolate mofetil, azathioprine, cyclosporine, IVIg, and plasmapheresis.\textsuperscript{3,4,6,7} There has been some recent success with rituximab (anti-CD20), which was not an option in our patient because of allergy, and alemtuzumab (anti-CD52).\textsuperscript{6,8} Death usually results from the underlying malignancy, or from complications such as sepsis, multi-organ failure, or respiratory failure from bronchiolitis obliterans.

**KEY POINTS**

- Paraneoplastic pemphigus is a rare autoimmune blistering disease associated most commonly with an underlying lymphoproliferative neoplasm
- Clinical presentation is polymorphic but classically includes severe and refractory stomatitis
- Immunofluorescence patterns are the most sensitive and specific way to confirm the diagnosis
- Recent treatment success with rituximab and alemtuzumab is encouraging, but disease remains fatal in up to 90\% of patients
- Supportive care, prevention of secondary infection, and addressing pulmonary involvement is vital as a significant number of patients die from these complications

**REFERENCES:**

CASE # 5

PRESENTERS: Kristin Eastman MD, Gloria Xu MD, Lisa Muchard MD, Daniel Bennett MD

HISTORY: A 15 day-old full term female neonate presented with multiple vesicular lesions on the arms, legs and trunk. When the patient was approximately 11 days old, the mother noted an erythematous rash that subsequently developed overlying vesicles. The rash started on the R arm and progressed to involve the L arm, trunk and bilateral legs. During the course of the admission, some of the lesions started becoming crusted. The patient had been in good general health with no fever, irritability, or other systemic symptoms. The patient had an uneventful birth and mom denied any perinatal complications. Mom denied a history of sexually transmitted infections or history of genital lesions. No family history of known genetic diseases.

Suspecting the rash may be due to herpes simplex virus (HSV), the patient’s PCP admitted the patient for further workup and empirically started her on IV acyclovir. Lumbar puncture and surface swab PCR were negative for HSV.

MEDICATIONS: None

EXAM: Well appearing female neonate in NAD, awake, alert and interactive. Skin exam revealed vesicles and crusted papules on an erythematous base in a linear blaschkoid arrangement on the right greater than left lower legs, right upper arm and only a few vesicles on the right anterior chest and upper back.

HISTOLOGY: Histiopathologic evaluation of a punch biopsy from the patient’s R thigh demonstrated large spongiotic vesicles containing eosinophils. There were also scattered necrotic keratinocytes and a brisk perivascular and diffuse infiltrate of lymphocytes and numerous eosinophils. PASD and DIF were negative.

LABS: Eosinophils elevated at 2330. WBC, HCT, BMP, AST, and ALT within normal limits

DIAGNOSIS: Incontinentia Pigmenti

TREATMENT AND COURSE: The patient was treated conservatively and evolved from the vesicular stage through the verrucous stage and is now in the hyperpigmented stage of incontinentia pigmenti. She has not demonstrated any other extracutaneous abnormalities (hair, nails, teeth, eyes, central nervous system) and is meeting all of her milestones thus far.

DISCUSSION: Incontinentia pigmenti (IP), also known as Bloch–Sulzberger syndrome, is an X-linked dominant neurocutaneous disorder with a characteristic cutaneous presentation that can also have neurologic, ophthalmologic and dental manifestations. IP is a type of ectodermal dysplasia that results from a mutation in the inhibitor of nuclear factor kappa-B kinase subunit gamma/NF-kappa beta essential modulator gene (IKBKG/NEMO gene), which encodes a regulatory protein. A loss of function of IKBKG leads to altered cytokine production, especially TNF-alpha, which likely accounts for the cutaneous inflammatory changes seen on biopsy and the sensitivity of the defective cells to TNF-alpha induced apoptosis. Seventy-five percent of IP cases are due to spontaneous mutations, and thus are sporadic cases. It mainly affects female patients because it is typically lethal in males, but there are reports of males with IP.

The natural history of IP follows four dermatological phases. The first is a vesiculobullous phase, which starts in utero or within the first 2 weeks following birth and manifests as erythema with vesicles and/or papules arranged in a blaschkoid distribution. On histology,
numerous eosinophils can be seen in the epidermis. The first phase gives way to the second (verrucous) stage within weeks to several months as the lesions crust over and become hyperkeratotic, verrucous papules and plaques in a similar linear and whorled blaschkoid distribution. The third (hyperpigmented) stage usually begins within the first few months of life and is marked by the development of brown whorls of hyperpigmentation along the lines of Blaschko. These areas of hyperpigmentation favor the trunk, but can be found on the extremities as well and may not correlate with previous areas of involvement in the vesicular and verrucous stages. As the patient approaches adolescence the hyperpigmentation gives way to the fourth and final stage, hypopigmentation, during which atrophic, hypopigmented, reticulate to whorled patches develop and favor the lower extremities. These lesions persist into adulthood.

Treatment is not required for the skin lesions, but topical calcineurin inhibitors or corticosteroids can be used to decrease inflammation during the vesicular stage. Due to potential involvement of extracutaneous sites, a number of consults are helpful for initial evaluation, monitoring and treatment. Suggested consults include: Dental for teeth abnormalities, Neurology for seizures and evaluation for neurodevelopmental abnormalities, Ophthalmology for monitoring and early detection of abnormal retinal fibrovascular proliferation or retinal detachment, and Genetics. Morbidity and mortality related to neurologic and ophthalmologic sequelae can be minimized by early detection and intervention, so early referral is recommended. The overall prognosis of IP is generally good.

**KEY POINTS**

- Incontinentia pigmenti is a X-linked dominant disorder caused by a mutation in IKBKG/NEMO
- Lesions appear in a blaschkoid distribution
- The four consecutive stages are: vesiculobullous, verrucous, hyperpigmented, hypopigmented
- Histology shows eosinophilic spongiosis
- Due to potential involvement of extracutaneous sites, suggested consults include: dental, neurology, ophthalmology and genetics.

**REFERENCES:**


PATIENT # 6

PRESENTERS: Abigail Taub MD, Daniel Bennett MD

HISTORY: An incarcerated 39 year-old male presented with a one year history of a growing spot on his upper back. He described decreased sensation specifically at the site of the skin lesion, which did not hurt or itch. He denied fevers, chills, numbness, tingling, or pain elsewhere. He is originally from Laos and moved to the United States in 1981.

PMH: Chronic hepatitis B virus

MEDICATIONS: None

FAMILY HISTORY: Unknown

EXAM: On the right upper back, there was an anesthetic slightly annular approximately 3 cm skin colored dermal plaque with satellite smaller papules. There was a small dark brown papule within the center of the plaque that appeared consistent with an incidental nevus. No ulnar nerve thickening. No alteration of sensation to pinprick or soft touch outside of the plaque.

HISTOLOGY: Within the superficial and mid to deep dermis, there are elongated collections of histiocytes and lymphocytes. Many of the histiocytes are epithelioid and some have multiple nuclei. The epidermis is intact without significant alteration. Special staining, with appropriate controls, shows the following profile:
Gram: negative
PASD: negative
Fite: negative (x10)

LABS: None

DIAGNOSIS: Borderline tuberculoid leprosy (paucibacillary leprosy)

TREATMENT: Clarithromycin 500 mg po bid and minocycline 100 mg daily (as recommended to prison MD by the National Hansen's Disease Program)

DISCUSSION: Leprosy (Hansen’s disease) is a chronic infectious disease caused by Mycobacterium leprae. M. leprae is a very slow growing, non-cultivable acid fast bacillus that has a predilection for macrophages and Schwann cells resulting in a chronic infection of skin and nerves. There is wide variation in clinical findings dependent upon the type of immunity. Cell mediated immunity (Th1 response) results in tuberculoid or paucibacillary disease whereas humoral immunity (Th2 response) results in lepromatous or multibacillary disease.1,2

Cutaneous lesions in paucibacillary disease tend to be anesthetic, have scale, be larger, have a well-demarcated edge, and have an asymmetric distribution. In multibacillary disease, lesions tend to have variable sensation, a smooth surface with an ill-defined border, small size, and symmetric distribution. Patients may also have nerve enlargement, painless wounds, loss of eyebrow or eyelash hair, or inflammatory eye changes.1

Diagnosis is based on biopsy. Microorganisms may be found within tissue using a Fite stain or PCR, but paucibacillary disease is often negative with both, requiring a diagnosis based on characteristic histopathology pared with the clinical presentation. Tuberculoid leprosy shows a dermal granulomatous infiltrate that may be in linear pattern if it follows the course
of a nerve. Lepromatous leprosy shows an infiltrate with macrophages with numerous bacilli and lipid droplets within their cytoplasm (Virchow cells).²

Standard treatment regimen in the U.S. for paucibacillary disease consists of daily dapsone with monthly rifampin for at least 6 months and for multibacillary disease daily dapsone and clofazimine with monthly rifampin for 1-2 years. About 50% of patients have a reaction after starting multidrug therapy.² Reactions can be severe and result in permanent nerve damage. They are divided into two forms. Type I reactions (reversal reaction) represent enhanced cell mediated immunity and present with inflammation of existing lesions. The increase in inflammation may result in permanent damage to nerves if involved. Affected nerves are enlarged and tender. Type I reactions are treated with oral corticosteroids. Type II reactions (erythema nodosum leprosum) are the result of circulating immune complexes and can result in multisystem disease. Patients present with fever, myalgias, arthralgias, and widely distributed erythematous dermal nodules that may ulcerate. Thalidomide is the treatment of choice.¹⁻³ Leprosy is a surveillance category II disease and all suspected or confirmed cases should be reported to the local health department and the National Hansen’s Disease Programs within 72 hours. However, transmission from person to person is rare and quarantine or isolation of patients is not recommended.⁴

**KEY POINTS**

- Leprosy is a chronic infectious disease involving the skin and nerves caused by *Mycobacterium leprae*
- Long-term morbidity associated with leprosy is most commonly the result of neuropathy.
- Consider the diagnosis in chronic, non-healing skin lesions; patients with a travel history to endemic areas; or lesions with altered/loss of sensation
- Leprosy is curable with multidrug therapy.
- Reactions are common and represent immunological complications, not treatment failure.
- Leprosy is a surveillance category II disease and should be reported to the local health department and National Hansen’s Disease Programs within 72 hours of diagnosis.

**REFERENCES:**
4. Leprosy. Wisconsin Department of Health Services. ww.dhs.wisconsin.gov/disease/leprosy.htm
CASE # 7

PRESENTERS: Lauren Craddock MD, Justin Endo MD, B. Jack Longley MD

HISTORY: A 46 year-old female presented with a several year history of painful, pernio-like acral lesions without history of Raynaud’s phenomenon or smoking. Her medical history included discoid lupus erythematosus (DLE) and systemic lupus erythematosus (SLE) manifest by vasculitic jejunitis, hypocomplementemia, peritoneal serositis, angioedema, chronic anemia and leukopenia. Acral lesions were resistant to multiple previous therapies including topical ultrapotent steroids, tacrolimus, and pimecrolimus; hydroxychloroquine with quinacrine; rituximab; methotrexate and azathioprine (both discontinued due to worsening leukopenia). She had partial responses to belimumab (discontinued due to diagnosis of renal cell carcinoma); oral prednisone; intralesional triamcinolone; and oral dapsone (discontinued due to worsening leukopenia).

MEDICATIONS: Fluocinolone oil and triamcinolone ointment to lesions on scalp and body with tacrolimus ointment to the face daily; plaquenil 200 mg PO BID; and prednisone 10mg PO 1-2 times daily; hydrocodone-acetaminophen PO PRN; lisinopril 10mg PO daily.

EXAM: Skin examination was significant for DLE lesions on the scalp, eyebrows, upper extremities, conchal bowls and nose; subtle erythematous scaly patches of the upper eyelids; violaceous, retiform purpura with superficial erosions intermixed with scarred, atrophic papules on most of her fingers and toes (Figure, A and B); and dilated nailfold capillary loops with vascular drop out. She had normal proximal muscle strength without extremity edema, synovitis, or sclerodactyly.

LABS: Leukopenia, lymphopenia, and slightly low C3. Normal or negative: glucose 6 phosphate dehydrogenase, lupus anticoagulant, aldolase, creatine kinase, sedimentation rate, C-reactive protein, C4. Positive: antinuclear antibody (ANA) and double stranded DNA (dsDNA).

HISTOLOGY: Routine hematoxylin and eosin of an acral pernio-like lesion from the right thumb demonstrated epidermal flattening with vacuolar changes and thickening of the basement membrane. There was a perivascular mononuclear cell infiltrate without leukocytoclastic vasculitis. Sclerosis was present throughout the entire dermis, infiltrating sweat glands and extending into the subcutaneous fat in a lace-like pattern with lipomembranous fat changes.

DIAGNOSIS: Lupus Erythematosus Profundus (LEP)

TREATMENT AND COURSE: The patient returned to have more painful acral lesions injected with intralesional steroids with subsequent improvement. She continues to take daily prednisone and hydroxychloroquine.

DISCUSSION: Lupus erythematosus profundus (LEP), also known as lupus panniculitis, is a rare, relapsing form of lobular panniculitis without vasculitis seen in 1-3% of patients with cutaneous lupus erythematosus (CLE), more commonly in women than men. Disease onset may occur prior to, at the same time, or after other extracutaneous manifestations of SLE. Prognostically, patients with LEP may have milder cases of SLE, but there is some controversy surrounding this issue. Some argue that extensive LEP may be associated with more serious systemic disease and warrants aggressive early treatment to prevent permanent disfigurement and resultant psychological sequelae. Others believe that patients...
with lupus profundus are at risk for development of abnormal clonal T-cell proliferations and/or overt subcutaneous panniculitis-like T-cell lymphoma. Clinically, lesions of LEP typically appear as multiple deep seated nodules or indurated plaques, with either overlying normal skin or surface changes of DLE; ulceration may also be present. Lesions may appear at sites of trauma, injection, or excision. Regressing lesions may have depressed scars or lipoatrophy. LEP has a predilection for the upper arms, shoulders, face, and buttocks. Other reported areas of involvement include the breast, orbital, and periparotid fat tissue. A brief review of the literature found only a single case of acral LEP lesions presenting on the dorsal hands. The paucity of reported acral LEP cases may in part be due to a tendency to clinically overestimate the prevalence of digital cutaneous vasculitis in SLE patients, as noted by Bouaziz, et al; this same group also highlights the usefulness of biopsy for diagnosis, prognosis, and proper management of the typically treatment resistant category of chronic CLE that includes LEP.

Histologically, there is a mostly lobular panniculitis with a predominantly lymphocytic inflammatory infiltrate. Some lymphocytes may have nuclear dust—a characteristic that helps differentiate it from other forms of lobular panniculitis. Lipomembranous changes are also highly suggestive of LEP. Necrosis of adipocytes is rare. Collagen bundles of the septa appear hyalinized and sclerotic with interstitial inflammation. About half of the time, lymphoid follicles are present; these may contain follicle centers and have plasma cells peripherally. More than half of the cases show superficial changes of discoid lupus with an atrophic epidermis, vacuolar change of the dermal-epidermal junction (DEJ), thickened basement membrane, interstitial mucin between dermal collagen bundles, and superficial and deep perivascular lymphocytic infiltrate. Less commonly, the overlying dermis and epidermis are normal. Immunofluorescence of lesional skin usually shows linear deposition of IgM and C3 along the DEJ.

Treatment of LEP typically includes topical, intralesional, and systemic steroids; antimalarials; and dapsone. Other potential treatments include thalidomide, cyclosporine, IVIg, and mycophenolate mofetil. This case illustrates an unusual acral variant of LEP, which may clinically mimic treatment-resistant pernio and require histopathologic diagnosis for direction of therapy.

**KEY POINTS**

- Lupus erythematosus profundus (LEP) is a rare manifestation of cutaneous lupus erythematosus, seen in 1-3% of patients.
- Lesions of LEP have a predilection for fatty areas of the face, torso, and proximal extremities. We present a rare case mimicking pernio on the fingertips.
- Histologically, >50% of lesions have overlying DLE with lobular mostly lymphocytic panniculitis beneath. Linear IgM and C3 are present in a linear distribution along the DEJ and may be useful to help differentiate LEP from other forms lobular panniculitis.
- Treatment typically includes steroids, antimalarials, and dapsone.
REFERENCES:
HISTORY: A 76 year old female with a past medical history of papillary serous carcinoma of the ovary, thyroid cancer, hypothyroidism, gastroesophageal reflux disease, hypertension, and possible rheumatoid arthritis presented with a photosensitive eruption on face and dorsal fingers. She also reported subjective muscle weakness of her shoulders bilaterally.

MEDICATIONS: Acetaminophen, atenolol, calcium, furosemide, glucosamine chondroitin, omega-3 fatty acids, polyethylene glycol, prednisone, simvastatin, vitamin C, warfarin, zoledronic acid

EXAM: Violaceous papules and plaques were noted overlying the metacarpal and interphalangeal joints of the bilateral dorsal hands. Violaceous thin plaques on the upper eyelids were associated with periorbital edema.

HISTOLOGY: The epidermis is somewhat atrophic with hyperkeratosis and interface change (basal vacuolization and colloid body formation). There are colloid bodies, but there is no keratinocyte necrosis. A patchy, but vaguely lichenoid, lymphohistiocytic infiltrate is present in the epidermis.

DIAGNOSIS: Dermatomyositis associated with ovarian carcinoma

TREATMENT AND COURSE: In 2011, she was diagnosed with papillary serous carcinoma of the ovary. Concomitantly, she developed a photosensitive eruption on her face and dorsal hands, as well as subjective muscle weakness. She was evaluated by dermatology and found to have characteristic clinical findings suggestive of dermatomyositis. Pathologic findings confirmed this. She had a normal creatine kinase and negative myositis panel; shoulder weakness was found to be secondary to osteoarthritis by rheumatology. Treatment with prednisone and methotrexate resulted in resolution of cutaneous symptoms. She was treated for ovarian carcinoma with surgery and chemotherapy and was deemed by her oncologists to be in remission. However, in 2013 she had recurrence of her dermatomyositis despite previous control. Repeat abdomen imaging demonstrated recurrence of papillary serous carcinoma of the ovary and the patient expired soon thereafter.

DISCUSSION: Dermatomyositis (DM) is a systemic autoimmune connective tissue disease characterized by chronic inflammation of the skin and muscles. Classically, it presents as an inflammatory proximal myopathy with characteristic skin changes in both children and adults. The skin disease of DM often precedes the onset of the myopathy. DM is associated with systemic manifestations including arthritis, renal disease, gastrointestinal disease, pulmonary disease, cardiac disease, neuropathy, and Raynaud’s phenomenon. Dermatomyositis can be associated with underlying malignancy; thus, it is considered a paraneoplastic dermatosis in those cases. The association with malignancy is more frequent in adults over 60 years of age.

The most well-known, possibly pathognomonic, cutaneous features of DM are heliotrope rash and Gottron papules. Other characteristic skin findings include: periorbital edema, malar erythema, poikiloderma in a photosensitive distribution, violaceous erythema on the extensor surfaces, periungual and cuticular changes. Some patients report scaly scalp, diffuse hair loss, and/or irregular, dirty-appearing horizontal lines on the lateral and palmar surfaces of the fingers and palms (i.e. mechanic’s hands). Subcutaneous calcifications are more common with juvenile DM. Systemic manifestations may have insidious onset; therefore, the review of systems should assess for the presence of arthralgia, arthritis, dyspnea,
dysphagia, arrhythmia, and dysphonia. If unusual findings such as atypical rash, splenomegaly, or impressive lymphadenopathy are present at the time of diagnosis, the presence of malignancy must be considered and a more in-depth evaluation to rule out malignancy should be performed prior to the initiation of treatment.5

The rate of underlying associated malignancy is 10-50%. Features that increase likelihood of malignant association include: age >65 years old, male sex, elevated C-reactive protein (CRP), elevated erythrocyte sedimentation rate (ESR), normal serum creatine kinase, negative myositis antibodies, positive anti-p155 antibody, refractory to treatment, cutaneous necrosis, and leukocytoclastic vasculitis.8 The increased rate among those with normal serum creatine kinase and negative myositis panels indicates there is an increased rate of underlying malignancy in amyopathic DM. There is reproducible evidence that the anti-p155 antibody (a myositis-specific antibody) is associated with a greater frequency of malignancy in patients with DM.9,10,11 Interestingly, in patients with juvenile DM this autoantibody correlates with severity of disease instead of the risk of malignancy.10 The presence of anti-extractable nuclear antigens (ENA) antibodies seems to be related to reduced risk of malignancy.9 It is rare for DM to be associated with an underlying malignancy in children.12

Malignancies associated with DM correlate with those that are common for patients’ demographics. In several cohort studies, ovarian, lung, colorectal, pancreatic and gastric adenocarcinomas and non-Hodgkin lymphoma are overrepresented in Caucasians.6,7,8,11,13,14 However, this may vary by geography as evidenced by Huang et al. who found nasopharynx, lung and breast cancers to have the highest association with DM in Taiwan.15 Elevated risk is highest at time of diagnosis and remains elevated, particularly in first three years after malignancy diagnosis.6,7,8,13,14 Based on this, age-appropriate evaluation for a possible malignancy should be performed at the time of diagnosis and annually for at least 3 years.2 The one exception to this guideline is ovarian carcinoma, which can be first detected up to five years after the presentation of dermatomyositis.15

Many therapies that have been used for patients with DM, based primarily upon case series or expert opinion. Skin disease is treated by sun avoidance and photoprotection, as well as with topical corticosteroids, antimalarial agents, and immunomodulatory medications. These include prednisone, methotrexate, azathioprine, high dose intravenous immunoglobulins, cyclosporine, cyclophosphamide, mycophenolate mofetil, and rituximab.17 Importantly, tumor necrosis factor-alpha (TNF-α) antagonists should not be considered in DM patients, as these agents have been shown to favor exacerbation of interstitial lung disease and myositis and increase the risk of severe pyogenic and opportunistic infections.17

**KEY POINTS**

- All patients with cutaneous dermatomyositis need appropriate evaluation for muscle disease, esophageal dysfunction, cardiopulmonary disease, and potential internal malignancy.
- Factors that increase risk of internal malignancy in patient with DM include: normal serum creatine kinase, negative myositis antibodies, refractory to treatment, cutaneous necrosis, leukocytoclastic vasculitis, >65 years old, male sex, elevated CRP and ESR, and the anti-p155 antibody.
- Ovarian, lung, colorectal, pancreatic and gastric adenocarcinomas and non-Hodgkin lymphoma are overrepresented in Caucasians. This may be geographically influenced though.
- Age-appropriate evaluation for a possible malignancy should be performed at the time of DM diagnosis and annually for at least 3 years in adults. Patients with ovarian carcinoma should be followed longer. Malignancy workup is unnecessary in children.
REFERENCES:

**WISCONSIN DERMATOLOGICAL SOCIETY**

**Case # 9**

**PRESENTERS:** Lydia Kim MD, Margo Reeder MD

**HISTORY:** The patient is a 21-year-old Asian female who presented to dermatology for evaluation of numerous nodules of her neck, chest, and abdomen. She had 3 bumps on her neck since middle school but developed many additional bumps within the past year. A few have gotten inflamed and drained an oily fluid. She denies any nail problems.

**PMH:** Acne

**MEDICATIONS:** Sulfacetamide-sulfur 10-5% cream

**FAMILY HISTORY:** Positive for similar bumps in father and paternal grandfather

**EXAM:** There are numerous soft, cystic papules and nodules ranging from 3-10 mm on the neck, chest, and abdomen. None appear inflamed. Several on the abdomen have a bluish hue. Oral exam shows buccal leukokeratotic plaques and yellow discoloration with enamel defect of 2 front upper incisors. Fingernails appear normal. 2-3 smaller toenail plates show distal hyperkeratosis. There is focal plantar hyperkeratosis on pressure points. The remainder of the skin exam is normal.

**HISTOLOGY:** Punch biopsy of a cystic lesion on the central abdomen shows a cyst wall with a crenulated cuticle and an adjacent mature sebaceous gland lobule. Left 4th toenail clipping shows a dystrophic and inflamed nail plate without evidence of fungus on PAS stained sections. There are small collections of granular bacteria.

**LABS:** Fungal culture of left 4th toenail clipping: negative for growth.

**DIAGNOSIS:** Pachyonychia congenita; features of both Type 1 and Type 2

**DISCUSSION:** Pachyonychia congenita (PC) is a rare autosomal dominant genetic disorder caused by mutations encoding keratin proteins that primarily affect nails and plantar skin. Historically, there are two major subtypes: PC-1 and PC-2. Features of both types include hypertrophic nail dystrophy, palmoplantar keratoderma, oral leukokeratosis, and pilosebaceous cysts.

PC type 1 (PC-1, or Jadassohn-Lewandowsky type) often has more pronounced palmoplantar keratoderma and oral leukokeratosis; PC-1 is caused by mutations in K6a and K16. PC type 2 (PC-2, or Jackson-Lawler type) is associated more with steatocystomas/pilosebaceous cysts and natal teeth; PC-2 is caused by mutations in K6b and K17. There is considerable phenotypic overlap between these two entities, and a more useful classification system based on the underlying genetic mutation has emerged, wherein the named subtype refers to the mutated keratin gene: PC-6a, PC-6b, PC-16, and PC-17 (PC-U for unknown genetic mutation).

Steatocystoma multiplex (SM) is a rare disorder of the pilosebaceous unit, characterized by multiple sebaceous cysts, or steatocystomas, which are yellow cystic papules usually 2-20 mm in diameter. Lesions typically appear in adolescence and are located most commonly on the upper anterior trunk, upper arms, and axillae. Although lesions are often asymptomatic, they may become inflamed and painful, and the appearance can detrimentally affect an individual’s quality of life. SM can be familial and inherited in an autosomal dominant manner, but sporadic mutations can also occur. Familial SM is most often caused by a missense mutation in K17. Though identical mutations in K17 can be observed in patients with PC-17,
Patients with SM have considerable variation in phenotypic expression of the typical PC features including nail dystrophy.\textsuperscript{4}

Several treatment options exist for SM including oral isotretinoin (has little effect on preexisting lesions), cryotherapy, surgical excision, simple aspiration with an 18-gauge needle, laser treatment, and carbon dioxide laser ablation. Treatment can be tricky due to presence of multiple lesions in most cases and resultant scarring from surgical interventions. Bakkour \textit{et al.} successfully treated 8 patients with SM using a CO2 laser perforation and extirpation method.\textsuperscript{5} The advantages of this method were reported to be the minimally invasive nature, ability to treat multiple lesions in single session, good cosmesis, and low recurrence of lesions.

Small interfering RNA (siRNA) is a gene-targeted therapy under development that can effectively silence gene expression. This is an ideal therapeutic option in dominant negative diseases such as PC. Phase 1b clinical trials have successfully shown decreased plantar keratoderma following intralesional injection with TD101, a targeted PC-6a N171K siRNA.\textsuperscript{6} Although there are still many obstacles to overcome (i.e. delivery modalities, safety monitoring), preliminary data are promising. Since effective therapies are limited for treatment of SM, siRNA targeting PC-17 specific mutations associated with SM may provide future therapy targets.

**KEY POINTS**

- Pachyonychia congenita is an AD genetic disorder of keratin characterized by dystrophic nails, focal palmoplantar keratoderma, oral leukokeratosis, and pilosebaceous cysts.
- There is considerable phenotypic overlap between the two types (PC-1 and PC-2), and revised nomenclature classifies subtype by causative mutation (PC-6a, PC-6b, PC-16, PC-17, and PC-U for unknown).
- Steatocystoma multiplex can be seen in association with PC-17 mutations. Treatment of SM is difficult due to presence of multiple lesions and resultant scarring with surgical intervention.
- TD101 is a siRNA therapy which targets a PC-6a mutation which has shown promising results in Phase 1b trials.

**REFERENCES:**

CASE # 10

PRESENTERS: Klint Peebles MD, Justin Endo MD

HISTORY: 47 year-old Cambodian-American woman with a 4-year history of systemic lupus erythematosus who presented with sepsis, general malaise, myalgias, and widespread cutaneous lesions. She was non-adherent with her medications for several months prior to presentation but was previously managed with mycophenolate mofetil, prednisone, and hydroxychloroquine.

FAMILY AND SOCIAL HISTORY: Significant for alcohol abuse. Negative for tobacco use or family history of connective tissue disease. She has 2 living children with history of 2 early miscarriages.

MEDICATIONS: Patient denied use of any new over-the-counter or prescription medications and herbals for at least 1 year.

EXAM: General: Scleral icterus, moon facies, and shotty cervical adenopathy.

Skin exam: Diffusely scattered dusky and violaceous macules and papules on the extremities, some of which had atypical 2-zone color targetoid appearance. There were also intermixed petechial and purpuric macules scattered over the extremities as well as pauci-inflammatory punched-out ulcerations on the back. Lesions largely spared the central chest and abdomen without a clear photodistribution. No Nikolsky or Asboe-Hansen sign. No track marks.

LABS AND DATA: Abnormal: ANA 1:640, homogeneous pattern, anti-ds DNA > 300 IU/mL, C3 23 mg/dL, C4 9 mg/dL, WBC 8 K/uL, Hgb 8.7 g/dL, HCT 26%, platelets 24 K/uL, BUN 28 mg/dL, creatinine 1.72 mg/dL, albumin 1.7 g/dL, total bilirubin 4.2 mg/dL, Alkaline phosphatase 159 U/L, AST 336, ALT 64, urinalysis muddy brown casts without dysmorphic red cells, C-reactive protein 8, sedimentation rate 39, INR 1.7, PTT 63.1

Blood cultures: Methicillin-sensitive staphylococcus aureus, 2/2 bottles
Urine cultures: Candida albicans, pan-susceptible E. coli

Normal/negative: Coombs test, lupus anticoagulant, anti-cardiolipin IgM and IgG, HCV antibody, HBV serology panel, HIV, HSV PCR from skin ulcers

HISTOLOGY: Biopsy of the arm showed interface dermatitis with full thickness epidermal necrosis; there was a superficial perivascular lymphocytic infiltrate with vacuolar interface changes along with necrosis of a follicular ostium; additional stains, including PASD, gram, and Ziehl Neelsen, were negative.

Biopsy of the shin showed early or evolving phase of leukocytoclastic vasculitis

DIAGNOSIS: TEN-like presentation of systemic lupus erythematosus

TREATMENT AND COURSE: Her lupus was managed with high-dose intravenous and topical corticosteroids under occlusion, and sepsis was managed with broad-spectrum intravenous antimicrobials. Her skin lesions and blood counts initially improved. However, she developed acute kidney injury that was thought most likely to be from sepsis rather than lupus nephritis. A liver biopsy revealed cirrhosis, probably from alcoholism. She also developed gastrointestinal bleeding, requiring multiple transfusions, and cardiomyopathy from subendocardial ischemia or lupus myocarditis. Despite multidisciplinary care from
dermatology, nephrology, infectious disease, gastroenterology, and cardiology, she rapidly
decompenated and expired from cardiogenic shock, respiratory failure, and disseminated
intravascular coagulation.

**DISCUSSION:** Apoptotic pan-epidermolysis (ASAP) is a constellation of conditions
characterized by acute and massive cleavage of the epidermis due to epidermal basal cell
apoptotic injury and dramatic extension of interface dermatitis.\(^4\) The ASAP differential
includes toxic epidermal necrolysis (TEN), pseudoporphyria, acute graft-versus-host disease,
and TEN-like lupus.\(^2\)\(^,\)\(^4\) The presumed final common pathophysiology of ASAP conditions is
immune reactant accumulation or dermal vasculitis.

TEN-like skin lesions are a rarely reported presentation of systemic lupus erythematosus
(SLE). It can begin with widely distributed erythematous macules and patches that are often
photodistributed. TEN-like lesions in the setting of SLE are often provoked by ultraviolet
exposure. Many cases are drug-induced.

Treatment for TEN-like lupus is controversial. The cornerstone is monitoring the patient in a
burn unit. High-dose steroids, intravenous immune globulin (IVIG), and plasma exchange
have been successfully reported.

This patient’s history of sun exposure was unclear and unlikely given season of presentation,
and no offending ingestant was identified. It was critical to rule out other ASAP conditions
prior to assuming SLE as the primary etiology given that the patient had multiorgan failure
and several differential diagnoses for her numerous signs and symptoms. The therapeutic
challenge was balancing systemic immunosuppression in the context of sepsis with
multiorgan failure and gastrointestinal bleeding. Her prior history, serologic evidence of SLE,
and interface dermatitis were consistent with lupus. Medication non-adherence likely
provoked recrudescence of her disease, ultimately triggering TEN-like skin lesions. The skin
ulcers were the likely portal of entry for staphylococcal septicemia.

**KEY POINTS**
- The Acute Syndrome of Apoptotic Pan-Epidermolysis (ASAP) is characterized by
  TEN-like cutaneous changes, which can result from causes other than classic drug
  hypersensitivity.
- TEN-like skin lesions can rarely occur either as an initial presentation or sequela of
  systemic lupus erythematosus. Even if not photodistributed, it should be considered
  in patients without a clear drug etiology for TEN.

**REFERENCES:**
4. Ting, W., et.al. Toxic epidermal necrolysis-like acute cutaneous lupus erythematosus and the
  spectrum of the acute syndrome of apoptotic pan-epidermolysis (ASAP): a case report, concept review
  and proposal for new classification of lupus erythematosus vesiculobullous skin lesions.” Lupus 13.12