Extensive dermatophytosis: A clue to adult onset primary immunodeficiency

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Summary: Primary immunodeficiencies may present in adulthood with atypical autoimmunity, cytopenias and infections. Often, there are clues to the diagnosis in cutaneous manifestations. Good syndrome (GS) was first described by Dr. Robert Good in 1954 and is an example of an as of yet poorly characterized immunodeficiency. We describe two cases of Good Syndrome diagnosed with an atypical cutaneous presentation. Background: To date, less than 200 cases of Good syndrome have been reported in the literature. Although described more than 60 years ago, it is still a challenge to physicians of different specialties who deal with the variable manifestations of this condition in the absence of diagnostic criteria. The clinical features of this syndrome include thymoma, immunodeficiency and hypogammaglobulinemia. Patients are at increased risk of death secondary to infections, autoimmune and hematologic complications. The immune deficiency involves both humoral and cell mediated immune responses increasing risks of infections related to either B-cells or T-cells abnormalities. With regards to the autoimmune presentations, pure red blood cell aplasia and myasthenia gravis were the most prevalent, followed by oral lichen planus, aplastic anemia, macrocytic anemia, autoimmune hemolytic anemia, monoclonal gammopathy, diabetes mellitus, polyarthropathy, and myelodysplastic syndrome. More recent case reports have described associations of GS with polymyositis and autoimmune retinopathy. Management consists of thymectomy, intravenous immunoglobulins, treatment of associated infections and autoimmune disorders. Recent data suggests that mortality and morbidity related to autoimmunity and infections is greater than in common variable immunodeficiency. Case presentation: We present a case with extensive recurrent cutaneous dermatophytosis for more than 20 years. The patient had a history of excised thymoma and myasthenia gravis. Laboratory investigations showed decreased B-cell and helper CD4 cells. A second case also presented with dermatophytosis and a history of myasthenia gravis. We propose that generalized dermatophytosis may be a clue to a primary immunodeficiency such as Good Syndrome. Awareness of generalized dermatophytosis as a clue to immunodeficiency may lead to earlier recognition and possibly decreased mortality and morbidity in GS and similar conditions.

Blastic plasmacytoid dendritic cell neoplasm: The skin providing a window for early diagnosis

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Summary: Blastic plasmacytoid dendritic cell neoplasm (BPDCN) is a rare and fatal hematopoietic malignancy. Dermatologists should be aware about this condition given the high percentage of patients with only cutaneous involvement at initial presentation. Early diagnosis will lead to earlier implementation of treatment and this can lead to a better control of this dismal disease. We present a case of BPDCN who presented initially with skin manifestations. Background: BPDCN is an aggressive hematopoietic malignancy originating from the precursors of plasmacytoid dendritic cells. In 2008, it was categorized under “acute myeloid leukemia (AML) and related precursor neoplasms” as per the World Health Organization Classification of Tumours of Haematopoietic and Lymphoid Tissues. It accounts for less than 1% of acute leukemias and 0.7% of cutaneous lymphomas. Less than 250 cases were described in the literature to date. The mean age of onset is the 7th decade. It presents with skin lesions in nearly 85% of cases with variable involvement of the bone marrow, peripheral blood, and lymph nodes at onset of the disease. The disease is rapidly progressive with evolution to frank leukemia in nearly all patients in terminal stages. The diagnosis is typically confirmed with a skin biopsy, which shows a diffuse infiltration of the dermis by monomorphic intermediate size cells that express CD56, CD4 and CD123. BPDCN is generally sensitive to initial chemotherapy; however, this is followed by a high rate of relapse and eventual progression to leukemia that is refractory to chemotherapy. The median survival is 12 to 14 months. Case presentation: An 84 year-old lady presented with a one-month history of asymptomatic disseminated violaceous macules and nodules over the trunk and frontal scalp. Skin biopsy from the left breast showed a diffuse dermal monomorphic infiltrate of medium size atypical cells that stained positively for CD4, CD56, CD43 and CD45. Pathology was most suggestive of blastic plasmacytoid dendritic cell neoplasm and the patient was referred to the hematology team. Around the same time, she was diagnosed with a primary gastric adenocarcinoma. Hematology/Oncology team elected first to start treatment for her aggressive hematological malignancy. She received 3 cycles of chemotherapy. 3 months after her initial diagnosis, she started to deteriorate and was transferred to palliative care.
Localized heparin induced skin necrosis without systemic evidence of heparin induced thrombocytopenia (HIT) from prophylactic subcutaneous heparin

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Subcutaneous heparin products are used in the routine prevention of deep venous thrombosis (DVT) in hospitalized patients. While skin necrosis due to warfarin initiation is more frequently considered, heparin induced skin necrosis is a rare but equally important complication of not only intravenous heparin, as seen in heparin induced thrombocytopenia (HIT), but also prophylactic subcutaneous heparin products. We report a case of heparin induced skin necrosis in a 61 year old female with alcoholic cirrhosis who presented with altered mental status secondary to decompensated liver failure, but later developed hemorrhagic bulla on the right and left flank of the abdomen approximately one (1) week into her hospitalization. Initial concerns were for a cellulitic infection progressing to necrotizing fasciitis. Dermatological assessment was requested with findings revealing two discrete, isolated, resolving hemorrhagic bullae on bilateral flanks, but without expanding warmth, erythema or tenderness. Further inquiry revealed the two sites to be the areas of subcutaneous heparin injections for DVT prophylaxis, which were stopped. To confirm clinical suspicions for heparin induced skin necrosis and rule out other possibilities, biopsy and culture were performed that revealed a thrombotic vasculopathy with no evidence of infection on pathology or microbiology. Throughout her hospitalization, platelet counts remained within normal limits with no appreciable fall in platelets and no evidence of systemic thrombosis to suggest HIT. Nonetheless, given the potential implications in a cirrhotic patient needing systemic anticoagulation in the future, a heparin-PF4 antibody was sent to evaluate for the possibility of an antibody mediated mechanism to the skin necrosis that would preclude future heparin exposure. The heparin-PF4 antibody study returned positive and was subsequently confirmed via serotonin release assay. This case highlights another important etiology when evaluating the causes of skin necrosis, which can occur with only the local subcutaneous administration of heparin products for DVT prophylaxis. While the proposed mechanism underlying heparin induced skin necrosis remains unclear, with theories ranging from a local hypersensitivity reaction to being PF4 antibody mediated, further evaluation for the possibility of systemic effects developing with future heparin exposure should be considered to prevent potential devastating consequences of systemic thrombosis.

Bullous pemphigoid arising in young patients with neurologic disease

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Bullous pemphigoid (BP) is an autoimmune blistering disorder, most prevalent in the elderly and characterized by large tense bullae on the flexural areas of the trunk and extremities. We present 2 cases of BP arising in young patients with neurologic disorders. A 38-year-old woman with history of traumatic brain injury, paraplegia, and seizure disorder, presented with a 3-week history of blisters and eosinophilia. Similarly, a 31-year-old man with history of anoxic brain injury and seizure disorder presented with an 8-week history of blisters and intermittent eosinophilia. Examination of both patients revealed extensive involvement of the face, trunk, and extremities with tense bullae, circular erosions, and edematous plaques with central pallor as well as denudement in areas of dependency. Biopsies from bullous and perilesional skin were obtained and histopathology demonstrated subepidermal blistering, superficial perivascular lymphocytic infiltrate, and scattered eosinophils. Direct immunofluorescence showed linear deposition of IgG and C3 along the dermoepidermal junction, confirming BP. In both cases, potential causative drugs were discontinued and treatment with methylprednisone and steroid-sparing agents was initiated. Unfortunately, both patients were recalcitrant to treatment and required dose escalations in corticosteroids, modification of steroid-sparing agents, intravenous immunoglobulin, and eventually rituximab in the second patient. These cases highlight an under-recognized young subset of BP patients and postulate a role for pre-existing neurologic disease in the pathogenesis of BP. A study of young patients with BP found they have more extensive disease and overexpression of anti-BPAG2 autoantibodies compared to their elderly counterparts. While the trigger for BP is unclear, up to one-half of elderly patients with BP have concomitant neurological disease and some studies suggest immunoreactivity between nervous and cutaneous epithelium as a mechanism. The co-occurrence of BP and neurologic disease in young patients is less established, yet this may reflect demographics, as neurologic conditions typically associated with BP also occur in the elderly. Drug-induced BP has been hypothesized; yet, these patients tend to improve after removal of the offending agent and with BP treatment. Our cases illustrate a common condition arising in an atypical population and provide insight into potential risk factors and management for this group.
Autoimmune bullous disease following allogeneic hematopoietic stem cell transplantation complicated by chronic graft-versus-host disease
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Case history: A 60-year-old man with history of stage IV non-Hodgkin’s lymphoma received an allogeneic hematopoietic cell transplantation (HCT), complicated by chronic graft-versus-host disease (cGVHD) involving the lungs, skin, GI tract and eyes. Three years after HCT, the patient presented with a 14-month history of intensely pruritic papulonodules on his extremities, back and scalp thought to represent arthropod bites and prurigo nodules. Initial skin biopsy showed epidermal ulceration with reactive change and scar. Lesions were minimally responsive to topical steroids. 3 months later, the patient developed subtle vesicles admixed with eroded papulonodules on his extremities and trunk. Diagnostic testing: Punch biopsy revealed a subepidermal bulla with eosinophils. No features of interface dermatitis were present to suggest GVHD. Direct immunofluorescence (DIF) of perilesional skin rednisone.

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36x283]exam, though the patient reported subjective improvement of pruritus. At 12 weeks of treatment, the pa
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36x307]ultraviolet B phototherapy due to cost and time constraints. The patient was started on a trial
36x319]previously treated with topical emollients, topical corticosteroids, and oral cyclosporine with minimal improvement. He decli
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Use of an oral phosphodiesterase inhibitor (apremilast) for the treatment of chronic, severe atopic dermatitis: A case report
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Background: Atopic dermatitis (AD) is a common inflammatory dermatosis characterized by pruritus, erythema, induration, and lichenification. Current treatment options for generalized atopic dermatitis are limited and have potentially dangerous adverse effects, especially in patients with severe, chronic AD who frequently require systemic anti-inflammatory agents. Case Report: A 55-year-old male presented to our clinic with generalized body and scalp atopic dermatitis and secondary diffuse alopecia. He had been previously treated with topical emollients, topical corticosteroids, and oral cyclosporine with minimal improvement. He declined ultraviolet B phototherapy due to cost and time constraints. The patient was started on a trial of apremilast, an oral phosphodiesterase inhibitor. Results: At four weeks of treatment with apremilast, there were no visible signs of improvement on exam, though the patient reported subjective improvement of pruritus. At 12 weeks of treatment, the patient exhibited substantially decreased erythema, oozing, and lichenification, as well as stabilization of hair loss and regrowth of hair on arms and face. The patient reported minimal pruritus. During the initial four weeks of therapy, the patient reported minor episodes of upset stomach and increased flatulence that have since ceased. Conclusion: Our preliminary results indicate that apremilast may be an effective treatment for chronic, severe AD. This patient will continue to be followed over the coming months in order to confirm a favorable efficacy and safety profile.
Acute cutaneous lupus erythematosus mimicking TEN
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A 25 year old Laotian female presented to the local county hospital from an outside hospital with painful erosions on the face and scalp. The rash started one month ago near her eyebrows, and since then spread to involve the scalp, trunk, proximal upper and lower extremities. She also had erosions of the cutaneous lips but no mucosal or ocular involvement. There were no vesiculobullous lesions present on the day of admission. She presented with fever, tachycardia, cytophenias and transaminitis on the day of admission. She had a personal had been diagnosed with chicken pox and a secondary infection, and had been treated for this eruption with PO doxycycline, clindamycin, and acyclovir. Family history was negative for autoimmune diseases. She was not on any medications prior to the eruption. Histopathology demonstrated vesicle formation at the DEJ with areas of full thickness epidermal necrosis and ballooning degeneration of basal keratinocytes. Further autoimmune workup revealed a positive ANA, and high antibody titers to RNP, Anti-Smith and Anti-SSA/Ro. Direct Coombs test was positive. Both C3 and C4 were low DIF showed negative IgE, and scattered IgM along the basement membrane zone (BMZ), as well as discontinuous C3 at the granular BMZ. The patient was started on PO prednisone tapered slowly, and she was also started on hydroxycholoroquine. She has improved significantly on this regimen.

Genotype-phenotype correlations in a family with dystrophic epidermolysis bullosa: Leave no DNA unturned
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Dystrophic epidermolysis bullosa (DEB) is either a dominant or recessive blistering disease due to one or two mutations in the COL7A1 gene, respectively. This is a case of two brothers with severe DEB, a healthy unaffected father and a mildly affected mother. Maternal ancestors showed dominant inheritance for 3 generations, displaying only dystrophic toenails and minor blistering of the lower legs. In contrast, both brothers demonstrated extensive blistering since birth. The older brother was more severely affected with pseudosyndactyly, oesophageal strictures and growth retardation. Skin biopsy showed a sub-epidermal blister with reduced intensity of collagen VII. Sequencing of the 118 exons of COL7A1 revealed a single dominant heterozygous mutation c.6698G>A (p.Gly2233Asp) in exon 84 in the two siblings and in all tested affected family members. Why however was there marked intra-familial phenotypic heterogeneity? Detailed analyses of the unaffected father’s COL7A1 gene lead to the identification of a novel deep recessive mutation of intron 19 in the heterozygous state in the father’s and his sons’ genomic DNA. Persistence of some normal splicing from the mutated paternal allele is predicted to allow the synthesis of 25% to 32% of normal COL7A1 transcripts in fibroblasts and keratinocytes, respectively. This is likely insufficient to form functional anchoring fibrils in the presence of the dominant mutated protein. In conclusion, the transmission of a dominant and a recessive mutation is the underlying cause for phenotype aggravation between parents and their offspring in this family. This is important for prognosis and genetic counselling.

A rare case of urethral involvement in erythema multiforme (EM) major
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We present the case study of a 27-year-old Nepalese male who was transferred to an intensive care unit at a tertiary hospital with symptoms of an upper respiratory tract infection (URTI) and erythema multiforme (EM) major. He had bilateral follicular tarsal and palpebral conjunctivitis as well as urethral inflammation with a yellowish-green discharge. He complained of severe dysuria and increased urinary frequency. This was on a background of taking oral amoxicillin/ clavulanic acid tablets for 3 days for a suspected bacterial URTI in the community. Sexually transmitted infection (STI) screening including T Pallidum antibodies, Chlamydia antibodies IgM and IgA, Chlamydia trachomatis PCR and Neisseria gonorrhoea PCR were all negative. Urine culture was negative for a urinary tract infection He was treated with 0.5mg/kg/d of prednisolone. His urinary symptoms and signs were closely monitored with the measurement of daily urine output to monitor for urinary retention and urethral perforation. A urinary alkalizing agent was given regularly to alleviate the symptoms of dysuria. Within 3 weeks, the prednisolone was successfully tapered off and there was a complete resolution of mucosal inflammation and erosions by 6 weeks. EM major typically involves more than one mucosal membrane but urethral involvement is rare. There has been one case of urethral perforation secondary to toxic epidermal necrolysis syndrome (TEN) in the literature1. Although rare, genitourinary examination is mandatory when EM is suspected, and early intervention can prevent significant adverse outcomes, including urethral strictures or perforation.
The expanding role of dermatologists in the treatment of metastatic melanoma

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Although dermatologists are critical to the multidisciplinary care of melanoma patients, the treatment and management of patients with advanced metastatic melanoma is generally directed by medical or surgical oncologists. However, the recent approval of Talmogene Laherparepvec (T-VEC) by the FDA in October 2015 presents dermatologists with a new opportunity to offer lifesaving treatment to patients with stage IIIB, IIIC, or IVM1a disease. TVEC is a modified herpes simplex type 1 virus. The oncolytic virus has two deleted genes: ICP34.5 which confers neurotropism and ICP47 which helps evade immune responses. An inserted gene expresses granulocyte macrophage colony-stimulating factor (GM-CSF) to enhance dendritic cell maturation and anti-tumor immune responses. Overall response rate in the phase II trial was 26% compared to 5% in the GM-CSF alone group. T-VEC also demonstrated significant abscopeal or bystander effect in untreated cutaneous lesions (34%) and visceral metastases (15%). In contrast to current first line therapy, Ipilimumab, no fatal treatment related events were observed during the phase III trial. The most common side effects reported included fever, chills, nausea, influenza-like illness and injection site pain. Therefore, TVEC, unlike systemic therapies approved for advanced stage melanoma, can be safely delivered in the outpatient setting by dermatologists to patients with unresectable melanoma with limited visceral involvement. Here we present two patients with stage III melanoma with in transit metastases, who achieved complete clinical response following oncolytic viral therapy. The first patient is a 72-year-old female with numerous local resections for recurrent cutaneous metastases. Due to her significant comorbidities and the increasing morbidity of multiple surgeries, she initiated oncolytic viral therapy and achieved complete response after three cycles. The second patient is a 73-year-old female with in transit and nodal metastases who progressed after Ipilimumab. She achieved complete response after seven cycles of T-VEC. Consistent with the phase III trial, the most common treatment related adverse side effects included low grade fever, malaise, and local injection site pain. There were no grade 3 or 4 reactions. T-VEC affords medical dermatologists a rewarding opportunity to safely deliver a potential cure to patients with life threatening stage IIIB, IIIC, or IVM1a melanoma in the outpatient setting.

Refractory Myelodysplastic syndrome associated vasculitis resembling a neutrophilic dermatosis treated with azacitidi

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Patients with Myelodysplastic Syndromes (MDS) are susceptible to the development of autoimmune manifestations that are difficult to treat and have variable prognostic implications. Presently, there are few treatments described in the literature with efficacy against the manifestations of MDS-associated vasculitis, in part due to patients’ susceptibility to hemolytic or myelosuppressive medications. We report on a patient with low-risk MDS who developed a cutaneous vasculitis with the initial clinical appearance of a neutrophilic dermatosis. Histopathology was consistent with MDS-associated vasculitis. This eruption was steroid-dependent and resistant to several steroid-sparing agents. Following three cycles of azacitidine, the vasculitis improved greatly (see Figures 1 and 2 below) and the patient’s steroid requirement decreased from 40-60 mg daily to 11.5 mg daily. Our case illustrates that MDS-associated vasculitis may clinically resemble a neutrophilic dermatosis. Our findings suggest azacitidine may have a role in the treatment of recalcitrant MDS-associated vasculitis, even in low-risk MDS.
Ticking time bomb: Malignant atrophic papulosis with extensive skin, gut, and brain involvement

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A 54-year-old woman presented with a three-year history of recurrent crops of atrophic porcelain white papules scattered on her trunk and extremities. Within one year of developing skin lesions, she experienced recurrent crampy abdominal pain episodes and associated fever. She underwent abdominal and pelvic CT scans, endoscopy, and colonoscopy, which were unremarkable. She subsequently experienced two unexplained transient episodes of acute neurologic deficits including right-sided hemiparesis and third cranial nerve palsy. She was referred to Dermatology, and on skin exam, there were innumerable porcelain-white atrophic papules with telangiectatic rims scattered on the trunk and extremities. Skin biopsy revealed an occlusive vasculopathic process involving the small vessels at the dermal subcutaneous junction, with overlying chronic ischemic changes to the collagen and epidermis. She was referred for diagnostic laparoscopy, which identified innumerable atrophic, porcelain-white scars on the serosal surface of her small intestine. A diagnosis of malignant atrophic papulosis (MAP) with skin, gastrointestinal and central nervous system (CNS) involvement was made. MAP, also known as Degos disease, idiopathic occlusive vasculopathy defined by characteristic clinical skin lesions of porcelain-white atrophic papules with telangiectatic rim. It occurs in a skin-limited and systemic form, with most common sites of systemic involvement including the GI tract and the CNS. While life expectancy for the skin-limited form is not affected, the systemic form is universally fatal, with most patients dying from small bowel perforation or stroke within 5-10 years of symptom onset. Recent reports suggest that any complaint of abdominal pain from a patient with characteristic lesions should elicit a diagnostic laparoscopy for evaluation of the serosal surface of the small bowel to evaluate for systemic involvement. MAP is exceedingly rare and very little is known about the pathophysiology of disease. Herein, the literature is reviewed, and possible pathophysiologic mechanisms and therapeutic suggestions are discussed.

Vegetative erosive Darier’s disease responsive to radiotherapy

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A 36-year-old female with history of Darier’s disease was evaluated in Dermatology clinic for worsening disease.Diagnosed at 10 years of age, she had been well controlled with topical steroids, topical retinoids and intermittent courses of isotretinoin. Over the last two years, the patient experienced severe flaring and pain of her lesions. Examination revealed hypertrophic, vegetative, macerated, erosive plaques over her neck, back, groin and buttocks. These lesions were unresponsive to isotretinoin, systemic steroids, topical steroids and retinoids, diclofenac, blue light, erbium:Yag laser, shave excisions and silver nitrate. Given her recalcitrant disease, she underwent two rounds of 20Gy electron beam therapy with 6 MeV, delivered in 10 fractions, to the right abdomen, buttocks and groin. She had significant flattening of the treated areas, with improvement in pain and increased mobility. This effect was sustained over 4 months. Darier’s disease is a rare autosomal dominant condition caused by mutations in the ATP2A2 gene, resulting in abnormal keratinocyte signaling, acantholysis and dyskeratosis. It is characterized by brown keratotic papules and plaques in a seborrheic distribution, which may evolve into malodorous, exophytic, vegetative plaques, especially in flexural areas. Heat, sweating, and stress may lead to flares. Darier’s disease is a chronic condition without spontaneous remission. Mild disease can be managed with emollients, photoprotection, topical steroids and topical retinoids. For severe disease, oral retinoids, CO2 vaporization and erbium:YAG laser ablation can be successful. Electron beam radiotherapy is well suited for treatment of cutaneous disease given low penetration to underlying tissues. It has been described as an effective, durable treatment of recalcitrant Hailey-Hailey disease, which shares many features of Darier’s disease. Additionally, patients with Darier’s disease undergoing radiotherapy for cancer treatment have experienced marked clinical improvement. The mechanism by which radiotherapy leads to improvement in these diseases is unknown. However, suppression of the inflammatory response has been proposed. Our patient experienced significant symptomatic relief and clinical improvement after radiotherapy. Electron beam therapy may be an effective treatment for localized, severe, recalcitrant, symptomatic disease. Further studies on the optimal dose, long-term outcomes and risks of this treatment are necessary.
**Use of intravenous immunoglobulin in severe pemphigus vulgaris presenting with sepsis: A case series**

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Pemphigus vulgaris (PV) is an uncommon and potentially fatal disease. The therapeutic approach for patients in whom first line agents are contraindicated or undesirable due to severe infection represents a great challenge. We present 4 patients (all female, age ranges 39-46), who presented with severe sepsis and active PV, compromising 25%, 15%, 40% and 38% of their body surface area. All patients had been previously treated with mycophenolate (MMF) and/or steroids. Treatment was withheld due to severe sepsis in all cases. All patients received intravenous immunoglobulin (IVIG) (2g/kg divided into 3-5 days), topical betamethasone and broad spectrum antibiotics. One week after initial stabilization and control of infection, 3/4 patients were started on low dose steroids (prednisolone 20mg/day - 40mg/day) and all of them received 2-3 repeat monthly IVIG cycles thereafter. All patients showed dramatic improvement after the first cycle of IVIG (decrease in the appearance of new lesions and healing of the already formed blisters). Nikolsky sign was absent in 4/4 patients at the end of treatment. Average improvement in body surface area involvement was 95%. Final affected body area was 5% in 1/4, and 0% in 3/4 patients. The average PDAI score was 50.8 before treatment and 1.5 after completing all IVIG cycles, achieving a 98.5% reduction in the disease activity. One patient expired due to complications from septic shock. There were no treatment-related adverse effects, and no further deaths or disease relapses during 3 months of observation. In our patient population we observed improvement in body surface area involvement and PDAI scores after treatment with IVIG, which was sustained over a 90 day follow-up. The use of IVIG is a valuable treatment option in patients with PV and severe infection.

**Cutaneous lupus erythematosus-like lesions in three patients with myelodysplastic syndrome**

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**Importance:** A variety of cutaneous lesions have been reported in patients with myelodysplastic syndrome (MDS): histologically specific and nonspecific. The appearance of cutaneous manifestations in MDS may be the first clinical sign of disease progression to acute myeloid leukemia (AML) and rapid transformation occurs in 50% or more of patients with cutaneous lesions. It is therefore important to investigate any skin involvement in MDS patients. **Observations:** 1) A 52-year-old man with refractory anemia with ringed sideroblasts (RARS) presented with erythematous papules and nodules on the arms, neck and cheeks. Histopathology was consistent with lupus panniculitis. Antinuclear antibody (ANA) testing was positive, titer 1:40, speckled and diffuse patterns. Due to the relative contraindication of antimalarial and immunosuppressant therapy in MDS, acitretin 25 mg/day was chosen as an alternative. After seven months it led to complete remission of all skin lesions and unexpected improvement in hematologic parameters. 2) A 48-year-old man with RARS presented with a malar rash and generalized papulosquamous, violaceous plaques clinically suggesting subacute cutaneous lupus erythematosus. Biopsies showed perivascular and perifollicular lymphohistiocytic infiltrates. ANA was negative. Acitretin 25 mg/3x week led to significant improvement in the skin over six months and stabilization in blood counts allowing for discontinuation of transfusions. 3) A 57-year-old woman previously diagnosed with MDS presented with a polymorphic rash and palpable purpura of the lower legs. Histopathology demonstrated superficial and deep perivascular lymphohistiocytic infiltrates with lymphocytic vasculitis. ANA was positive, 1:160, homogeneous and speckled pattern. She was given prednisone 60 mg/day and then switched to acitretin 25mg/3x week. Despite improvement in her rash, she only sustained a few weeks of therapy before transformation to AML. **Conclusions:** Presented here are three MDS patients with lupus erythematosus-like lesions with supporting histopathologic and serologic studies. Paraneoplastic autoimmune and rheumatic manifestations are sometimes known to present in MDS; however, lupus-like eruptions have not previously been reported. Additionally, two patients had substantial improvement in both skin and blood parameters with acitretin. Further investigation of the relationship between hematologic abnormalities and autoimmune lupus-like skin findings in MDS is warranted.
A new proposed algorithm for treatment of vulvar lichen sclerosus recalcitrant to topical corticosteroids
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Lichen sclerosus (LS) is a chronic lymphocyte mediated dermatosis that has a predilection for the anogenital skin. It has a female predominance and is characterized by an initial inflammatory state followed by chronic scarring and skin atrophy. Anogenital involvement occurs in 85% of cases with manifestations ranging from asymptomatic to intense pruritus, pain, and constipation. Diagnosis is often delayed, but prompt intervention is key for symptom management, decreasing the risk of progression to high-grade intraepithelial lesions or vulvar squamous cell carcinoma, and minimizing complications of genital scarring. The gold standard induction therapy is use of a superpotent topical corticosteroid followed by maintenance with a taper in potency. For disease that is recalcitrant to topical corticosteroids, adjunctive therapies include intralesional corticosteroid injections, topical calcineurin inhibitors, phototherapy, photodynamic therapy and systemic retinoids. There have been a limited number of case reports that demonstrate the efficacy of Methotrexate and Hydroxychloroquine as alternative therapies, with effect likely due to anti-inflammatory properties that target the immune dysregulation and possible autoimmune mechanisms of LS. In this case series, we report three vulvar LS patients who have been successfully treated with Hydroxychloroquine and/or Methotrexate, and using this information propose a new algorithm for treatment of vulvar LS that is recalcitrant to treatment with topical corticosteroids. The algorithm involves the sequential use of Plaquenil, Methotrexate (with option to increase dose) and Thalidomide.

Ultrasound as a diagnostic tool in calciphylaxis
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Calciphylaxis is a potentially life threatening disease characterized by calcification and occlusion of arterioles, leading to skin necrosis. It can be difficult to diagnose in its early stages due to variable, and often ambiguous, clinical and histopathological presentations. Clinically, early lesions may mimic cellulitis, thrombophlebitis, cholesterol emboli, warfarin necrosis or vasculitis, while histopathology may resemble other calcifying panniculitides, thrombotic diseases and other processes that cause vascular calcification. Biopsy remains the gold standard for diagnosis of calciphylaxis, but also carries risks of ulceration and infection. Ulceration is associated with 1-year mortality of 45-80%. Given the risks associated with biopsy in this patient population, we are in need of diagnostic tools that can minimize the requirement for tissue sampling. We report a case of a 48-year-old female with type II diabetes mellitus, chronic kidney disease, on hemodialysis, and secondary hyperparathyroidism who presented with painful lower extremity retiform purpura without ulceration. A skin biopsy demonstrated intravascular calcification and thrombosis with overlying ischemic necrosis, consistent with calciphylaxis. Ultrasound imaging of the lower extremities showed fine, diffuse, hyperechoic vascular calcifications without posterior shadowing, suggestive of calciphylaxis. There are rare reports of the use of radiologic imaging as an adjunct to clinicopathologic correlation when considering a diagnosis of calciphylaxis. X-ray is the best studied, with one retrospective case-control study demonstrating that a netlike pattern of calcification on x-ray has a 90% specificity for calciphylaxis. In a separate retrospective case series, radiologic evidence of vascular calcification was demonstrated in the affected anatomic site an average of 48 days prior to diagnosis by histology. Use of ultrasound has been reported less frequently than use of x-ray, CT or bone scan, although ultrasound may offer an inexpensive, efficient, portable and safer means of arriving at the diagnosis. Because calcification can be generalized and extend beyond visible skin lesions, ultrasound may also help identify at risk patients and monitor response to therapy. Further studies are needed to better characterize patterns of calcification and to determine the sensitivity and specificity of ultrasound in diagnosing calciphylaxis.