PRESENTERS
Amy Farmer, MD and Vesna Petronic-Rosic, MD

HISTORY OF PRESENT ILLNESS
A 66-year-old white male presented with a lesion on the neck of two months' duration to an outside institution. The excised lesion was diagnosed as a malignant melanoma (nodular-type, Breslow thickness 4mm, ulcerated). The patient was referred to Oncology at the University of Chicago and was discussed at the multidisciplinary melanoma tumor board. After re-evaluating the original slides and performing additional immunostaining on the original specimen, a diagnosis of Langerhans' cell histiocytosis was made. Over the course of 6 months, the patient has developed a total of four additional tender lesions on his cheek, abdomen, forearm and buttock.

REVIEW OF SYSTEMS
The patient denied dyspnea, polydipsia, polyuria, bone pain, fever, and weight loss.

PAST MEDICAL HISTORY
Parkinson's disease
Hodgkin's disease, diagnosed in 1995
Hypertension
Multiple non-melanoma skin cancers

PAST SURGICAL HISTORY
Wide excision of neck lesion for presumed melanoma

MEDICATIONS
Potassium Chloride, hydrochlorothiazide, lisinopril, cozaar, sinemet, tylenol, and vitamins.

FAMILY HISTORY
Mother with breast cancer, diagnosed age 63
Maternal aunt with breast cancer, diagnosed age 60
Sister with melanoma, diagnosed age 65
Brother with bladder carcinoma, diagnosed age 75
Niece with melanoma, diagnosed age 46

SOCIAL HISTORY
Non-smoker, moderate drinker, married with four children

PHYSICAL EXAMINATION
On the abdomen, there was a 1.7 by 1.2 cm rubbery firm erythematous nodule with central hemorrhagic crust. Similar appearing lesions were subsequently seen on the cheek, forearm, and buttock over the ensuing 6 months.

LABORATORY DATA
Complete blood count, lactic dehydrogenase, comprehensive metabolic panel were all within normal limits.
Positron Emission Tomography was normal.
Computerized tomography of the chest, abdomen and pelvis did not show evidence of distant disease.

DERMATOPATHOLOGY

Review of the outside slides from the neck lesion revealed infiltrates of histiocytic cells with folded nuclei, fine chromatin, and inconspicuous nucleoli in an inflammatory background with focally prominent eosinophils. The tumor cells immunoreact with S100 and CD1a. There was weakly positive staining with CD68. Melan A, HMB-45, MIFT 1, and CD21 staining were negative. Additional biopsies performed at the University of Chicago of the cheek, abdomen, buttock and forearm revealed similar pathology with identical immunostaining.

DIAGNOSIS

Adult Langerhans' cell histiocytosis limited to the skin

TREATMENT & COURSE

After the diagnosis of Langerhans cell histiocytosis was made on the patient's original lesion on the neck, the patient presented with four new nodules (cheek, abdomen, wrist, and buttock). The first two lesions were removed surgically, with no evidence of recurrence. The last two lesions were treated with intralesional kenalog injections.

DISCUSSION

Langerhans cell histiocytosis most commonly occurs in children with the incidence reported at five per one million. The incidence in adults is one-third as common and estimated to be one to two cases per million. In a retrospective review of 58 adults with LCH, the average age at presentation was 43.5 years with 66% female predominance. Single organ involvement was found in 72% of patients, the majority having pulmonary disease alone. In both single and multi-organ involvement, the most commonly affected site was the lung (62%) followed by bone (50%) and skin (15%).

Purely cutaneous LCH is rare and can have a variety of clinical presentations. It is limited to the skin in 10% of patients. Predominant sites for cutaneous involvement include the scalp, flexural areas, external genitalia, and glabrous skin. LCH of the mucous membranes has been considered a predictive factor for progression of disease. Development of systemic findings may occur months to years after the cutaneous diagnosis. Periodic follow-up is recommended to screen for systemic involvement, particularly the lungs, bones, and pituitary gland.

The histological appearance of LCH can vary, but is characterized by a proliferation of CD1a and S100 positive cells with large, reniform nuclei. These cells do not characteristically express markers for either dermal dendrocytes or macrophages.

Treatment options for cutaneous LCH include excision, topical corticosteroids, topical antibacterials, subcutaneous interferon alpha 2b, isotretinoin, thalidomide, topical nitrogen mustard, topical mechlorethamine, PUVA and radiation. For systemic LCH, reports show a lower rate of reactivation, higher response, and lower probability of developing diabetes insipidus with a complex multidrug regimen including vinblastine, etoposide, prednisolone, mecaptopurine, and methotrexate.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE 2**

PRESENTERS
Amy L. Priess, MD and Christopher R. Shea, MD

HISTORY OF PRESENT ILLNESS
A 57-year-old African American man presented with a four-month history of large, tender nodules on his face, arms, legs and buttocks. The lesions started on his arms. All of the lesions rapidly enlarged and progressively became tender, friable, and crusted. Treatment with oral antibiotics one month earlier did not alter the progression of his lesions. He denied any recent travel. The patient had fevers, chills, cough and hemoptysis one month before presentation. His review of systems was otherwise unremarkable.

PAST MEDICAL HISTORY
Arthritis, asthma, diabetes mellitus, gout and hypertension

MEDICATIONS
Albuterol, fluticazone, glipizide, tramadol, hydrochlorothiazide, potassium chloride and diazepam

ALLERGIES
Penicillin and erythromycin

SOCIAL HISTORY
The patient lives with wife and is retired from the sewer department for the city of Chicago.

PHYSICAL EXAMINATION
Well-developed man in no apparent distress. Skin examination revealed multiple, large, foul-smelling, vegetative, crusted plaques and nodules on the face, arms, legs and buttocks. No significant lymphadenopathy was appreciated.

LABORATORY DATA
CBC and complete metabolic panel were within normal limits.
Chest x-ray revealed clear lung fields without focal opacities or pleural effusions.

DERMATOPATHOLOGY
A four millimeter punch biopsy specimen was taken from the left posterior arm. Histologic examination revealed a stratum corneum with extensive parakeratosis, hemorrhage and crusting. The epidermis was acanthotic with several focal collections of neutrophils. The dermis had a superficial and deep perivascular infiltrate of lymphocytes, plasma cells and occasional multinucleated giant cells. The PAS stain demonstrated broad-based budding of fungal organisms, predominantly within the epidermis. The GMS stain confirmed the presence of abundant fungal organisms in the same location.

DIAGNOSIS
Blastomycosis

TREATMENT AND COURSE
The patient was admitted to the internal medicine service for a complete work up and treatment. He was started on itraconazole, 200 mg daily. Clinical improvement was seen in the skin lesions when the patient returned to the dermatology clinic twelve days after starting treatment. His course was complicated by memory loss and episodes of confusion which had progressed since one month after starting itraconazole. He was referred to a neurologist who has been following him closely. The patient completed a full six-month course of itraconazole.

DISCUSSION

Blastomycosis is caused by *Blastomyces dermatitidis*, a thermally dimorphic fungus endemic to the Ohio and Mississippi river areas. Most cases are from the Great Lakes region and the southern United States.

Although skin lesions are a common presenting feature of blastomycosis, it usually begins as a primary pulmonary infection. Clinical manifestations of the pulmonary infection range from asymptomatic to fever, chest pain, cough and hemoptysis. This infection may resolve spontaneously or progress to a chronic pulmonary condition resembling tuberculosis.

The skin is the most common site of disseminated, extrapulmonary blastomycosis. Disseminated blastomycosis is also common in the bone, urogenital system and adrenal gland.

Diagnosis is established by identification of the yeast phase of the fungus in a tissue biopsy specimen. Potassium hydroxide preparation may also be used to visualize the yeast phase of the fungus. Tissue culture may be used to confirm the diagnosis.

The treatment of choice depends on the severity of the disease. In the less severe cases with localized spread, itraconazole (200-400 mg daily) for six months is the treatment of choice. In more severe cases with widespread dissemination, amphotericin B (up to 1 mg/kg daily) may be used.

The most common side effects of itraconazole include gastrointestinal distress, rash and headache. Rarely dizziness, tremor and somnolence occur. Memory loss has not been associated with itraconazole.

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PRESENTERS
Rebecca Satoskar, MD, Vesna Petronic-Rosic, MD, Christopher R. Shea, MD, K.M. Soltani, MD

HISTORY OF PRESENT ILLNESS
This 77-year-old woman presented with an exophytic, fungating mass on her right lower leg that had grown rapidly over a few months. A biopsy specimen by a local dermatologist in August 2005 was read as high-grade sarcoma with features of pleomorphic liposarcoma. She was admitted to orthopedics for operative management and workup of possible metastatic disease.

PAST MEDICAL HISTORY
Deep venous thrombosis with subsequent inferior vena cava filter placement; iron deficiency anemia. Hospital course complicated by severe GI bleeding from duodenal ulcer, *Pseudomonas* bacteremia that resolved with Zosyn, low albumin, ascites, anasarca, and sacral decubitus ulcer.

PHYSICAL EXAMINATION
Cachexia, anasarca. Right anterior lower leg: 18 cm exophytic, soft, lobulated, hemorrhagic, fungating tumor. No inguinal lymphadenopathy.

RADIOLOGY DATA
CT scan of the chest, abdomen, and pelvis revealed bilateral pleural effusions and atelectasis, and several small, poorly visualized, nodules at the right lung base thought to be possible metastases.

DERMATOPATHOLOGY AND CYTOGENETICS
Sections showed a highly cellular tumor including extremely pleomorphic cells with hyperchromatic nuclei, atypical mitotic figures, and prominent cytoplasmic vacuolization, in a fibromyxoid stroma,. Immunohistochemistry revealed diffuse expression of desmin and focal expression of calponin. The tumor did not express caldesmon, muscle-specific antigen, S-100 protein, myogenin, smooth muscle actin, or cytokeratins.

DIAGNOSIS
High-grade myxoid sarcoma consistent with myxoid fibrosarcoma or myxoid leiomyosarcoma

TREATMENT & COURSE
The oncology service determined that the patient was not a candidate for chemotherapy or radiation therapy. She declined an above-knee amputation and elected discharge to an inpatient hospice program. She died four days later.

DISCUSSION
Soft tissue sarcomas (SSTs) are a histologically diverse group of tumors differentiating toward non-epithelial, extraskeletal tissue arising mainly from embryonic mesoderm, including muscle, fat, and fibrous supporting structures. In some cases neuroectoderm may contribute. SSTs account for only about 1% of adult malignancies, but about 50% of patients die of the disease. The most common locations are the lower and upper limb girdles, retroperitoneum, and intraperitoneal sites. Uncommonly, tumors develop on the trunk or head and neck. With the exception of malignant peripheral nerve sheath tumors in neurofibromatosis, most SSTs arise *de novo* rather than *via* malignant transformation of benign tumors. Pathologic assessment of SSTs considers the direction of differentiation and the grade of tumor. Direction of differentiation does not necessarily reflect tissue of origin, as SSTs may occur in areas in which the corresponding normal tissue is absent. The World Health Organization classification defines approximately 50 subtypes of SSTs: pleomorphic sarcoma not otherwise classified (pleomorphic malignant fibrous histiocytoma), leiomyosarcoma,

liposarcoma, fibrosarcoma, synovial sarcoma, malignant peripheral nerve sheath tumor, dermatofibrosarcoma protuberans, etc. Tumor grade, based on degree of differentiation, mitotic count, and extent of necrosis, is generally a more important prognostic factor than is the precise histogenesis. In addition to grade, tumor staging considers tumor size and distant metastasis. Lymph node metastases occurs in <5% of adult SSTs, and carry the same prognostic significance as distant metastases. The lung is the most common site for metastases in SSTs of the extremity. SSTs of visceral origin metastasize most frequently to the liver. Retroperitoneal tumors may spread to both lung and liver.

SSTs typically grow by centrifugal, spherical expansion along tissue planes, compressing the surrounding tissue. However, malignant cells penetrate this pseudocapsule, and therefore simple removal of visible tumor usually leaves microscopic disease, leading to recurrence in 90% of cases. Standard management involves wide resection (2 to 3 cm margins), removing at least one tissue plane uninvolved circumferentially if possible. Tumors involving critical structures may be treated by narrow excision with a positive microscopic margin, followed by radiation therapy. Limb-sparing surgery currently is feasible in about 90% of cases, with amputation required in about 10%. There is little evidence that adjuvant chemotherapy improves survival.

Our patient's poorly differentiated myxoid sarcoma most likely represented a poorly differentiated variant of either myxofibrosarcoma or myxoid leiomyosarcoma. Myxofibrosarcoma (myxoid malignant fibrous histiocytoma) occurs at a mean age of 65 years. It usually develops in the subcutaneous tissues of the extremities. Most tumors measure less than 10 cm and have multinodular, ill-defined, deceptively infiltrative margins. Histology is characterized by paucicellular areas containing small, fusiform or stellate cells with small, hyperchromatic, pleomorphic nuclei and indistinct, slightly eosinophilic cytoplasm set in a copious myxoid matrix. Pseudolipoblasts with mucin-containing vacuolated cytoplasm are present. Vessels are delicate, thin-walled, and curvilinear, with some condensation of tumor cells around vessels in the myxoid regions. A mixed inflammatory infiltrate may be present. High-grade lesions are marked by solidly cellular, necrotic and hemorrhagic foci, as well as eosinophilic fascicular foci, which tend to be actin-positive. Immunohistochemistry reveals consistent vimentin expression and focal actin expression in high-grade lesions. All other markers are usually negative. Ultrastructural study reveals both fibroblastic and myofibroblastic features. Myxoid leiomyosarcoma is a rare variant of leiomyosarcoma occurring in the genital tract, thigh, trunk, and retroperitoneum. Tumor cells are spindle-shaped with a fascicular, reticular, or myxofibrosarcoma-like architecture in a copious myxoid matrix. Cytoplasm is eosinophilic and distributed in a bipolar fashion around variably pleomorphic, cigar-shaped nuclei. Mitotic figures are evident. Immunhistochemistry is significant for invariable actin expression as well as desmin expression in 70% of cases. Occasionally, cytokeratin and epithelial are positive, while S-100 protein is negative.

The immunohistochemical profile of our patient's tumor does not match precisely the pattern of either diagnosis. Positive staining for desmin supports smooth-muscle differentiation. However, the tumor lacked the expected staining for actin, which leans toward a fibroblastic differentiation. In either case, the high grade of the tumor, large size, and possible metastases portended a poor prognosis, as soon eventuated.

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PRESENTERS
Miriam Hanson, MD, Shail Busbey, MD, and Vesna Petronic-Rosic, MD

HISTORY OF PRESENT ILLNESS
A 25-year-old Caucasian female with a past medical history of Crohn's disease presented with a 3-month history of pruritic "bumps" on the lower extremities. The lesions started around the ankles bilaterally and progressively spread to proximal sites, including the trunk and upper extremities. Several of the lesions resolved spontaneously but there was no improvement with tacrolimus 0.1% ointment.

PAST MEDICAL HISTORY
Childhood atopic dermatitis
Pyoderma gangrenosum – January 2002. Lesions involved the left leg and face. Patient was treated with oral steroids and plastic surgery.
Crohn's Disease – January 2002. Treated in the past with oral steroids, infliximab, and 6-mercaptopurine. Gastrointestinal disease is currently in remission.

MEDICATIONS
6-mercaptopurine 75 mg PO daily
Infliximab 5 mg/kg IV every 8 weeks

FAMILY HISTORY
Non-contributory

PHYSICAL EXAMINATION
Multiple, scattered 3 to 4 mm erythematous scaly papules on the chest, back, and extensor and flexural surfaces of the extremities.

LABORATORY DATA
Infliximab level 8.5 (reference range <1.4)
Human chimeric antibodies to infliximab 1.69 (reference range <1.69)

DERMATOPATHOLOGY
Microscopic examination revealed numerous perivascular granulomas in the dermis composed of epithelioid histiocytes, lymphocytes, eosinophils, and rare neutrophils. There was endothelial swelling and fibrin deposition within the blood vessel walls but no occlusion or necrosis was noted. Based on immunohistochemical staining, the dermal infiltrate was composed of approximately 60% CD3 positive cells, 80% CD4 positive cells, and 5% CD8 positive cells. Less than 1% of cells labeled with CD30, PAX 5 or CD20. Anti-CD34 was negative.

DIAGNOSIS
Cutaneous Crohn's disease

TREATMENT AND COURSE
The patient was started on metronidazole 250 mg PO daily and topical fluocinonide 0.05% ointment. After 2 to 3 weeks of treatment, the lesions began to resolve and the pruritus dramatically improved.

DISCUSSION
Crohn's disease is a chronic relapsing disorder characterized by segmental granulomatous inflammation of the intestinal tract. Extraintestinal findings on the mucosa and skin are found in 22-44% of patients and may be contiguous or noncontiguous with the intestinal source. The dermatologic manifestations of Crohn's disease include distant cutaneous disease,

perianal or oral disease, reactive skin lesions including erythema nodosum and pyoderma gangrenosum, and nutritional skin changes.

Cutaneous Crohn's disease is a rare dermatological manifestation in which there are non-caseating granulomatous lesions that are not contiguous with the intestinal disease. The disease tends to be chronic and its severity is not related to the condition of the intestinal disease. The cutaneous lesions include papules, pustules, nodules, and/or ulcerations that can occur at various locations, with the genital region being the most frequent site of involvement.

In contrast to other cutaneous manifestations of Crohn's disease, the cutaneous granulomatous lesions represent a difficult problem because of their unsatisfactory response to conventional therapy. Complete healing of the lesions is rarely obtained although partial benefit has been reported with azathioprine, metronidazole, infliximab, steroids, mycophenolate mofetil, surgery and hyperbaric oxygen therapy. Several recent reports in the literature suggest anti-TNF therapy is an effective and well-tolerated approach to therapy-resistant cutaneous Crohn's disease. However, in our patient, the lesions developed while the patient was on infliximab.

We present this case for educational purposes and to discuss the diagnosis, histopathological findings and management.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE 5**

PRESENTERS
Arlene Molino, MD and Sarah L. Stein, MD

HISTORY OF PRESENT ILLNESS
The patient is currently a 9-month old Hispanic male who initially presented at 15-weeks of life for evaluation of a growing "birthmark" on his right face and eyelid and new marks on his body. The lesions were first noted by his mother at about 1 month of age, gradually expanding and causing swelling of the eyelid. Shortly thereafter, she found similar lesions near the mouth, and on his left shoulder and elbow. In addition, the patient also has several congenital anomalies including a split sternum, cardiac ventricular septal defect, digital anomalies, and a possible aortic arch anomaly.

PAST MEDICAL HISTORY
Born at 36 weeks gestation, birth weight: 2722 gm (50-75 percentile), vaginal delivery
Mother's prenatal course unremarkable
NICU/pediatric ward inpatient admission until 7th day of life

MEDICATIONS
None

PHYSICAL EXAMINATION
A violaceous, lumpy vascular plaque approximately 5 x 7 cm in size was noted over the right forehead with extension to the right upper eyelid. The eyelid appeared to be swollen, causing ptosis. Also noted was a 5 mm purple papule near the left corner of the mouth with involvement of a small portion of the adjacent lip mucosa. Two irregular purple papules, approximately 7 mm in diameter, were found on the left shoulder and left elbow. There was a midsternal invagination adjacent to which were a small hypopigmented patch, a salmon pink patch, and a small exophytic papule. On the left second finger a constriction was noted near the proximal interphalangeal joint.

RADIOGRAPHIC DATA

Date	Study	Results
1/17/05	Chest wall U/S	- 2 hemi-sternums noted, with a 3 to 5 cm gap the cephalic portion
1/20/05	CT chest/CT angiogram	- 5mm outpouching extending ventrally from the aorta, with possible hypoplasia of the aortic arch
4/26/05	Left hand X-ray	- thumb: severe underdevelopment of the distal phalanx - index finger: absence of the distal phalanx, hypoplasia of middle phalanx, constriction of the diaphysis of the proximal phalanx - slight constriction of proximal phalanges of 3rd & 4th digits
8/9/05	MRI Brain/Spine	- no posterior fossa malformations identified
8/29/05	CT angiogram brain/neck	- fusiform post-stenotic aneurysm of the right middle cerebral artery - fusiform aneurysm of the cavernous segment of the right internal carotid artery - probable spinal dural arterio-venous malformation at C4-C5 vertebral level

DIAGNOSIS
Multiple hemangiomas with additional congenital defects consistent with PHACES syndrome

TREATMENT & COURSE

The patient was started on oral prednisone 3.2mg/kg/day. By his 4 week follow-up exam significant improvement was noted in the vascular lesions. At this time the dose of prednisone was decreased to 2.2 mg/kg/day, and his mother was advised to observe for any rebound growth. At 7 weeks, the hemangiomas continued to be stable and the prednisone taper was completed over the next 8 weeks.

At the start of his course, the patient was referred to ophthalmology due to the significant swelling of his left eyelid. No vision defects were found on multiple follow-up exams. Surgical repair of the sternal defect and release of the banding around the left 2nd finger is being planned. The VSD is stable and does not currently require surgical intervention.

DISCUSSION

PHACE syndrome is an uncommon condition represented by the variable association of posterior fossa malformations, hemangiomas, arterial anomalies, cardiac abnormalities, eye abnormalities. It has also been called PHACES syndrome when ventral developmental defects, including sternal clefting, are present. The syndrome is thought to represent a spectrum of manifestations, with up to 70% of patients having only one extracutaneous diagnosis, most commonly structural or vascular intracranial defects. A review of 130 cases of PHACES by Metry et al showed that some of the most common abnormalities included left-sided plaque like facial hemangiomas, Dandy-Walker malformations, intracranial vascular anomalies, and coarctation of the aorta. The hemangiomas may not be present at birth, and may appear in the first 1 to 2 months of life. A review of hemangiomas of infancy by Chiller et al revealed that Hispanic infants appeared to be more likely to have segmental lesions and associations with other defects, particularly PHACES syndrome. They also found that segmental hemangiomas were often larger, required longer, more aggressive treatment, and had a higher incidence of complications. Our patient's facial hemangioma was unusual in that it was a deeper lesion than the typical more superficial plaque-like lesions of PHACES syndrome, and it responded very quickly and completely to systemic corticosteroid therapy.

As the condition is most commonly seen in females, some have proposed an X-linked etiology. Alternatively, it has been suggested that the syndrome may result from an abnormality in a developmental field during embryonic development at 6 to 8 weeks. Presentation with only some of the diagnostic associations may be the result of partial expression of this defect. It is recommended that patients with large facial segmental hemangiomas undergo thorough cardiac, ophthalmologic, and neurologic examination.

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PRESENTERS
Yaohui Gloria Xu MD,Ph.D, and Sarah L. Stein MD

HISTORY OF PRESENT ILLNESS
The patient is 3-month-old 34-week gestation Caucasian male, who presented at 17 days of life for evaluation of a collodion membrane. At birth he was noted to have a thick membrane diffusely over his body and deformities of facial features, fingertips and joints. He was treated with extra humidity in an incubator in the neonatal intensive care unit, and application of Aquaphor and artificial tears. He began to desquamate the collodion layer on day 4-5, and was discharged home on day 14. The parents continued to apply Aquaphor frequently to his skin, and reported that there had been peeling of most of the thickened skin that was present at birth and that the patient has been gaining weight well and acting well.

PAST MEDICAL HISTORY
The patient was born prematurely at 34 weeks of gestation after premature rupture of membranes via C-section due to a breech position. His Apgar scores were 6 and 8 at 1 and 5 minutes, respectively, and his birth weight was 2.06 kg (50-75 percentile). There is no consanguinity between the parents. The mother has had three miscarriages at 6-7 weeks of gestation in previous pregnancies. This pregnancy was complicated by gestational diabetes.

FAMILY HISTORY
There is no history of skin disorders in any family members.

PHYSICAL EXAMINATION
At 17 days of life, a small but vigorous infant (2.73 kg) was noted to have a generalized taut, shiny, and transparent membrane with areas of cracking and peeling and some underlying erythema. There was moderate ectropion, mild eclabium, mild ear deformity and mild restriction of digits. Upon re-examination 2 month later, the weight was 4.94kg. His scalp, trunk and extremities exhibited large plate-like sheets of somewhat hyperpigmented scales and alopecia. His ectropion and eclabium were improved.

LABORATORY DATA/IMAGING/ DERMATOPATHOLOGY:
None

DIAGNOSIS
Collodion baby, evolving now to the phenotype of probable lamellar ichthyosis.

TREATMENT AND COURSE
The parents have been keeping the infant coated with Aquaphor or Vaseline ointment and maintaining a humidified environment. Ongoing education will be provided for the parents regarding potential for heat intolerance if sweating is compromised, monitoring hearing to avoid conduction deficits due to accumulated scales in the ear canal, and future use of retinoids. Genetic counseling for the parents is planned. Eventual testing for possible mutations in the transglutaminase-1 gene was discussed with the parents. Referral to support groups is also important.

DISCUSSION
The descriptive term “collodion baby” refers to a clinical phenotype of a newborn with a glistening membrane covering the whole body surface that subsequently peels off in a few days to weeks, leaving variably looking skin with scaling. The term was introduced in 1892. Since then approximately 290 cases have been described. Initially, collodion babies look very much alike at birth, representing a common presentation of heterogenous, predominantly autosomal recessive, congenital ichthyoses.

Congenital autosomal recessive ichthyoses include three types of ichthyosis: nonbullous congenital ichthyosiform erythroderma (CIE), lamellar ichthyosis (LI) and harlequin fetus, as well as several syndromes in which ichthyosis is one element. CIE and LI can be distinguished based on the nature of scaling and intensity of erythroderma, yet some cases present with an intermediate phenotype between the two classic entities, leading some authors to propose that

CIE and LI can be considered as variants of a single keratinization disorder. Harlequin fetus, however, demonstrates a much more severe phenotype in the newborn period. The majority of collodion babies, reported as high as 60% in a serial case study, evolve into CIE (41%) or LI (18%). Rarely, collodion membrane could precede the onset of ichthyosis syndromes including Sjögren-Larsson syndrome, trichothiodystrophy with ichthyosis, Netherton syndrome, neutral lipid storage disease, infantile Gaucher disease, Conradi-Hünermann-Happle syndrome or ectodermal dysplasia. About 10% of collodion babies heal spontaneously within the first few weeks, leaving normal skin or very mild ichthyosis on the trunk, representing a condition described as "self-healing collodion baby" or "lamellar exfoliation of the newborn".

To date, the pathogenesis leading to the formation of collodion membrane is only partially understood. About one third of infants that eventually develop one of the autosomal recessive ichthyoses have mutations in the TGM1 gene (14q11.2), the gene encoding transglutaminase 1. Transglutaminase-1 plays a pivotal role in the assembly of the cornified cell envelope, and consequently, its deficiency results in massive hyperkeratosis, impaired barrier function and transepidermal water loss. Other implicated genes include lipid transporter gene, ABCA12 (2q33-q35), lipoxygenase 3 gene (ALOXE3) (17p 13.1), 12 (R)-lipoxygenase gene (ALOX12B) (17p 13.1), and ichthyin gene (5q33). Mutations of these genes can lead either to CIE or LI. Other loci for unidentified candidate genes of CIE and LI have been reported on chromosomes 12p11.2-q13, 19p13.1-p13.2, and 19p12-q12. Even with known gene defects, the mechanism of how the defect might lead to the collodion membrane are largely unknown in some congenital ichthyoses, such as Sjögren-Larsson syndrome in which the genetic defect is known in the gene encoding fatty aldehyde dehydrogenase (FALDH).

In addition to a characteristic membrane at birth, collodion babies commonly present with ectropion, eclabium, and hypoplasia of nasal and auricular cartilage secondary to the tautness of the skin. Nail deformities and scarring alopecia can be seen, while teeth are often normal. Defective barrier function may lead to infection, hypothermia and hypernatremic dehydration. Collodion babies are also at risk for pneumonia due to possible aspiration of amniotic fluid containing scales, and restrictive lung ventilation. Treatment for collodion babies is largely supportive, which includes a humidified environment, frequent application of emollients, as well as a careful monitoring for temperature, fluid and electrolyte balance, and signs of infection. No specific diagnostic measure is recommended until the membrane is shed and a transition to the underlying disease phenotype begins to occur. Ultimately, appropriate molecular genetic studies might be considered to confirm mutations in the causative genes.

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PRESENTERS
Bernhard Ortel MD, Vesna Petronic-Rosic MD, Christopher R. Shea, MD

UNKNOWN CASE

PRESENTERS
Elaine Kung, MD, Vesna Petronic-Rosic, MD, Shail Busbey, MD

HISTORY OF PRESENT ILLNESS
This is a 40 year-old African-American man with a three-year history of primary eosinophilia presented with generalized pruritic erythematous papules coalescing into plaques. A skin biopsy showed subacute dermatitis with prominent eosinophils. Work-up for secondary eosinophilia and lymphoproliferative disease were negative. The patient was treated for "florid eczema" with betamethasone, hydroxyzine, and erythromycin. Three months later, treatment was changed to narrow band-UVB three times per week, triamcinolone 0.1% ointment, doxepin, and erythromycin. Narrow band-UVB was administered intermittently for the following three years. A repeat skin biopsy this year demonstrated lichen simplex chronicus with prominent eosinophils. A repeat work-up for secondary eosinophilia was again negative. Flourescent in-situ hybridization for CHIC2 locus deletion (a surrogate marker for FIP1L1-PDFR_ mutation) and serum tryptase levels were normal, precluding a potential benefit from Gleevac (imatinib mesylate). Hence, immunosuppression with prednisone 40mg PO QD was initiated in August 2005.

PAST MEDICAL HISTORY
Psoriasis (1993) and diabetes mellitus (1998)
MEDICATIONS
Prednisone 40mg PO QD and metformin 500mg PO QD
ALLERGIES
No known drug, environmental, or food allergies.

PHYSICAL EXAMINATION
Numerous erythematous and hyperpigmented nodules on the hands and feet, as well as, erythematous and hyperpigmented plaques on extensor surfaces of extremities were present. His scalp was covered with cerebriform hyperpigmented plaques.

LABORATORY DATA
Laboratory data in 2002: Peripheral blood count showed 39% eosinophils, absolute eosinophil count 4120/mm^3 (normal 0-600), IgE 5918 (normal <100), IgG 2977 (normal 800-1700), ESR 26 (normal 0-15). Infectious, parasitic, rheumatologic, and myeloproliferative studies were negative or within normal limits.
Bone marrow biopsy in 2003: Marked eosinophilia but no dysplasia of myeloid cell lines.
Laboratory data in 2005: CHIC2 locus normal, serum tryptase level 11.6 (normal 0-11.4), vitamin B12 level 498 (normal 240-900).

DERMATOPATHOLOGY
Skin biopsy from forearm in 2002: Sections of skin have focal parakeratosis, moderate acanthosis, mild spongiosis, and a mononuclear perivascular infiltrate in the upper dermis with prominent eosinophils. Clinical pathological correlation was suggestive of atopic dermatitis.
Skin biopsy from right thigh and left dorsal hand in 2005: Sections of skin have hyperkeratosis and irregular acanthosis of the epidermis overlying a dense perivascular and interstitial dermal lymphohistiocytic infiltrate with numerous eosinophils. There is thickening and fibrosis of individual collagen bundles in the dermis. The pathologic diagnosis was lichen simplex chronicus.

DIAGNOSIS

Chronic skin changes due to primary eosinophilia or hypereosinophilic syndrome (HES)

TREATMENT & COURSE

The patient has been treated with prednisone 40mg PO QD since August 2005.

DISCUSSION

Blood eosinophilia can be divided into the following: reactive or non-clonal eosinophilia, clonal disorders of the bone marrow associated with eosinophilia, and HES, which remains a diagnosis of exclusion. Traditionally, HES described the constellation of persistent eosinophilia ($1500/mm^3$) for greater than 6 months, end organ damage, and eosinophilia not attributable to other causes such as parasites, allergies, malignancies, or connective tissue diseases.

Standard therapy for HES has been systemic glucocorticoids ranging from 10 mg/kg/day for acute life threatening cases to 1-2 mg/kg/day for maintenance. When glucocorticoid therapy fails to control the disease, or the side effects become intolerable, hydroxyurea 1-2 gm/day has traditionally been the next treatment choice. Chemotherapeutic agents, such as, vincristine, etoposide, chlorambucil, and interferon-α have been used with some effect. Cyclosporin has been used effectively since it targets T-cell clones thought to drive hypereosinophilia via cytokines, such as IL-2 and IL-5.

With advances in molecular biology it is possible to better categorize and understand the mechanism behind HES. Novel therapies utilize antibodies targeting specific proteins or cytokines. A subset of patients with HES was found to have FIP1L1-PDGFRα translocation, creating a fusion protein (F/P) with constitutive tyrosine kinase activity that phosphorylates genes related to eosinophil proliferation and activation. Gleevac inhibits the F/P fusion protein and has been reported to achieve complete or partial remission of HES in a few patients. The deletion of CHIC2 locus, a surrogate marker for FIP1L1-PDGFRα translocation, can be used to determine whether patients are candidates for Gleevac. Furthermore, some patients who are responsive to Gleevac have high serum tryptase level, also elevated in myeloproliferative diseases.

Another promising agent in open label clinical trials is mepolizumab, a humanized monoclonal antibody directed against the eosinophil growth and activation factor IL-5. Mepolizumab has been reported to cause significant reduction in peripheral and dermal eosinophilia in a few patients who did not have FIP1L1-PDGFRα translocation and are not responsive to glucocorticoids or other immunomodulating agents. It seems likely that, in the near future, there will be a shift from blanket immunosuppression to specific targeting of genes and cytokines responsible for this disease.

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PRESENTERS
Vishakha Sharma, MD, Vesna Petronic-Rosic, MD, Christopher R. Shea, MD

HISTORY OF PRESENT ILLNESS
This 34-year-old African American woman presented with a 1.5-year history of recurrent, painful sores and blisters that began in her mouth and progressed to her hands, lasting for one to two weeks before resolving. She developed new blisters about every three to four weeks. She denied any prodrome or herpetic lesions. Prior treatments included daily valacyclovir for the last 1.5 years, topical triamcinolone ointment, and a thirteen-day prednisone taper, all with no response.

PAST MEDICAL HISTORY
None

PAST SURGICAL HISTORY
Gastric bypass surgery, hernia repair

REVIEW OF SYSTEMS
Negative

MEDICATIONS
Valacyclovir 2 g daily, triamcinolone 0.1% ointment, multivitamins, iron

ALLERGIES
No known drug allergies

SOCIAL HISTORY
Smokes one-half pack cigarettes per day; drinks alcohol occasionally

PHYSICAL EXAMINATION
Targetoid erythematous macules with dusky, red borders and central clearing were present on both palms and extensor elbows; one large bulla with an erythematous, slightly elevated border was present on the dorsal right thumb. Erosions with a white base were present on the buccal mucosa and lips.

LABORATORY DATA
The following were negative or within normal limits: HIV, RPR screen, anti-double stranded DNA antibody, hepatitis B antibody, hepatitis C antibody, HSV IgM, HSV I IgG, liver function tests, blood urea nitrogen, creatinine, calcium, glucose-6 phosphate dehydrogenase (G6PD).
The following were abnormal: anti-nuclear antibody 1:160, HSV II IgG positive, EBV IgG positive, hemoglobin 11.3.

DERMATOPATHOLOGY
Right thumb biopsy: There is a subepidermal blister with full-thickness necrosis of the surface epidermis, containing fibrin, lymphocytes, and red blood cells. The adjacent epidermis has numerous individual necrotic keratinocytes and focal vacuolar degeneration of the basal layer. The dermis has extensive red cell extravasation and a moderately dense, superficial and mid-dermal perivascular lymphohistiocytic infiltrate.

DIAGNOSIS
Recurrent erythema multiforme

TREATMENT & COURSE

After the G6PD level was shown to be normal, she was given dapsone 50 mg daily, with no response initially. The dose was increased to 100 mg daily with successful resolution of her lesions and no recurrence of her symptoms for over six weeks. She is now on 150 mg daily and continues to be doing well. Complete blood count and liver and renal function are monitored regularly. Thus far, only a small reduction in hemoglobin has been noted.

DISCUSSION

Erythema multiforme (EM) is an acute, self-limiting mucocutaneous disorder classically exhibiting symmetrically distributed, erythematous lesions with concentric color change (target lesions). Two subtypes are recognized: recurrent EM, characterized by complete resolution of lesions between episodes, and persistent EM, with uninterrupted, persistent lesions. Patients with recurrent EM experience two or more attacks per year, each attack about 14 days. Recurrent EM is thought to be induced by recurrent herpes simplex virus infection in 70-99% of cases. Even in cases that do not clinically appear to be related to HSV infection, lesional skin has been found to contain viral DNA, suggesting a subclinical infection. Other proposed etiologic associations with recurrent EM include mycoplasma infection, CMV, EBV, and rarely Coxsackie, adenovirus, streptococcus, and hepatitis C virus. There is also one report of progesterone-associated recurrent EM. Acyclovir (given either as chronic oral therapy or in five-day oral courses at the onset of HSV symptoms) is a useful first-line treatment of recurrent EM. Continuous valacyclovir may have greater efficacy due to its greater bioavailability. In patients unresponsive to either acyclovir or valacyclovir, therapeutic options include dapsone, antimalarials, azathioprine, thalidomide, mycophenolate mofetil, and most recently intermittent oral cyclosporine. Perhaps the most successful of these alternative options is dapsone. In the study of Schofield et al., eight of nine patients who had failed acyclovir treatment responded to dapsone at doses of 100-150 mg daily. The use of dapsone for recurrent EM has only been mentioned subsequently once or twice in case reports; however, there have been several well-documented cases of persistent EM responding well to dapsone, confirming its effectiveness in this disease entity.

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PRESENTERS
Olga Ulitsky MD, Vesna Petronic-Rosic MD, Pedram Gerami MD

HISTORY OF PRESENT ILLNESS
A 75 year-old man with a history of myelodysplastic syndrome (MDS) with refractory cytopenias and multilineage dyplasia was referred to the University of Chicago for a rising white count and hemorrhagic skin lesions. The patient was hospitalized and had a bone marrow biopsy, which revealed transformation of MDS into AML. The patient was admitted for chemotherapy. Upon admission, dermatology was consulted because of the persistent skin lesions on the right arm and leg of two weeks duration. They were described as being mildly uncomfortable papules of sudden onset, which rapidly progressed into larger plaques.

PAST MEDICAL HISTORY
MDS diagnosed 09/03 with transformation into AML 09/04, asthma, migrane headaches, hypercholesterolemia, hypertention.

MEDICATIONS
Acyclovir, Urocholine, Lexapro, Protonix, Allopurinol, Hydroxyurea, Percocet, Combivent inhaler, Cytarabine, Triapine

FAMILY HISTORY/SOCIAL HISTORY
Non-contributory

PHYSICAL EXAMINATION
Scattered erythematous papules, plaques, and nodules, some studded with pustules on the right arm and leg. No lymphadenopathy was noted.

LABORATORY DATA
WBC count: 32.4(10/04), 23.8(10/05), 53.7 (10/06)
Tissue culture showed negative gram stain, however few Staphylococcus aureus species were found in the culture as a likely contaminant

DERMATOPATHOLOGY
Sections of skin showed papillary dermal edema and a mixed inflammatory infiltrate with numerous neutrophils and extravasated red blood cells in the papillary dermis. A folliculocentric neutrophilic abscess extends through the overlying epidermis. Large atypical lymphoid cells with folded nuclear membranes and prominent nucleoli consistent with leukemia cutis cells are seen. These cells stain with CD68 and CD14 protein markers and are myeloperoxidase negative. PAS, GMS, Gram, and Fite stains are negative for microorganisms.

DIAGNOSIS
Leukemia cutis and Sweet's syndrome/pyoderma gangrenosum overlap

TREATMENT AND COURSE
Treatment was initiated with 60 mg of prednisone followed by a slow taper. The skin lesions rapidly improved and the patient was discharged.

DISCUSSION
Sweet's syndrome is the prototype of a neutrophilic dermatoses originally described by Sweet in 1964. The classic clinical presentation consists of acute onset of erythematous plaques with a mamillated surface often with overlying pustules. Pathergy is a highly characteristic feature. Women are affected more often than men with the typical age at onset between 30 and 60 years old. Accompanying fever, leukocytosis, and arthralgias are common. Histologically, dermal edema accompanied by a dense, sterile neutrophilic infiltrate is present in the dermis. Overlap lesions with features of both Sweet's syndrome and pyoderma

gangrenosum are well recognized in the literature. There are a number of well-known associations including autoimmune inflammatory diseases (e.g. inflammatory bowel disease), pregnancy, medications such as G-CSF (Filgastrim). When associated with malignancy, it is most frequently hematologic including myelodysplastic syndromes and acute myeloid leukemia.

Leukemia cutis may occur with any form of leukemia. Among the acute leukemias, the M4 and M5 variants, myelomonocytic and monocytic most commonly result in cutaneous infiltration with leukemic cells. Clinically, lesions present as firm papules and nodules, which are often hemorrhagic. Histologically, nodular and diffuse infiltrates in the dermis and often in the subcutaneous tissue are seen. A grenz zone is characteristic. Small, medium or large blastic cells can be seen often infiltrating between collagen bundles.

In our patient, the histology revealed dense neutrophilic infiltrates centered around a hair follicle suggestive of a Sweet's syndrome/pyoderma gangrenosum overlap and an adjacent area infiltrated by monoblasts and promonocytes. We were able to find four other reports of patients with combined infiltrates of Sweet's syndrome and leukemia cutis in a single lesion. The relationship of the lesions is debatable. Theories speculate of a common skin homing mechanism resulting in co-localization, recruitment of the leukemic cells in an area of Sweet's syndrome or a chemotactic factor released from the leukemic cells in leukemia cutis resulting in infiltration by neutrophils.

Our differential diagnosis included histiocytoid Sweet's syndrome, a recently described entity consisting of immature neutrophils with a histiocytoid appearance that can mimic leukemic blasts. Our patient had MDS that transformed into AML with a predominance of promonocytes and monoblasts. The immunohistochemical stains in our patient were negative for myeloperoxidase, which should label immature neutrophils and were positive for CD14 and CD68, suggestive of cells of a monocytic origin. Additionally, the biphasic nature of the infiltrate with an area of dense mature neutrophils classic of Sweet's syndroma/pyoderma gangrenosum overlap and a separate area with blasts were more suggestive of a combined lesion. We emphasize the importance of doing immunohistochemistry to distinguish the lesions from histiocytoid Sweet's syndrome because true leukemic involvement of the skin is an adverse prognostic factor for the patient.

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PRESENTERS
Amy J. Farmer, MD, Christopher R. Shea, MD, and Sarah L. Stein, MD.

HISTORY OF PRESENT ILLNESS
The patient is an otherwise healthy, 15-year-old Hispanic female who presented to the Dermatology clinic complaining of multiple asymptomatic bumps located on the nose that had been present for two years and failed to resolve with traditional acne therapy.

PAST MEDICAL HISTORY
None

PAST SURGICAL HISTORY
None

MEDICATIONS
Brevoxyl cleanser
Tretinoin qhs

ALLERGIES
None known

FAMILY HISTORY
No evidence of familial cancer syndromes

SOCIAL HISTORY
High school student

PHYSICAL EXAMINATION
There were multiple skin-colored, poorly circumscribed 3-5 mm papules located on the nasal tip and ala bilaterally.

LABORATORY DATA
None

DERMATOPATHOLOGY
Two shave biopsies were performed (one at outside instituition) that were non-diagnostic.

A 0.3 mm punch biopsy of the nasal lesion was then performed. The epidermis was slightly hyperplastic. There were abundant sebaceous glands within the superficial dermis extending into the deep dermis. Some glands had insertions into superficially located hair follicles lacking mature hair shaft formation. Several sebaceous lobules were arranged in a radial array around a central follicle with focal cystic dilation. Rare Demodex mites were present within several sebaceous structures. There is a deep perivascular lymphocytic infiltrate. Significant atypia or mitotic figures was not identified.

DIAGNOSIS
Multiple sebaceous trichofolliculomas of the nose

TREATMENT & COURSE
In light of the extensive involvement of the nose, the patient opted for conservative treatment with topical tazoratene as a preliminary step, with some flattening of the lesions. A course of isotretinoin was discussed and is being considered by the patient.

DISCUSSION

Sebaceous trichofolliculomas are described as a variant of trichofolliculomas. A trichofolliculoma typically presents as a solitary papule of the head and neck, often with a tuft of hair protruding from the central portion of the papule. Sebaceous trichofolliculomas also present on sebaceous skin and have been reported to occur on the nose and the genitals. Typically, these lesions are skin-colored, poorly defined, solitary papules with a central depression. These lesions may also have hairs protruding from the central lesion.

Sebaceous trichofolliculomas have a characteristic histological pattern with a hamartomatous growth pattern and a large central cavity or sinus with keratinizing secondary branches in a radial array with prominent sebaceous follicles. It also has been hypothesized that sebaceous trichofolliculomas represent a mature stage of another follicular hamartoma, the folliculosebaceous cystic hamartoma. However, the folliculosebaceous cystic hamartoma has distinctive stromal changes as well as prominent infundibular cystic structures. In addition, the opening of the infundibular cyst to the epidermis and the appearance of follicular structures with differentiation toward lower follicular segments is said to distinguish sebaceous trichofolliculoma from folliculosebaceous cystic hamartomas.

Although sebaceous neoplasms have been associated with the Muir-Torre syndrome, there have been no reports of its association with either sebaceous trichofolliculoma or folliculosebaceous cystic hamartomas.

Treatment with surgical excision has been reported for sebaceous trichofolliculomas and folliculosebaceous cystic hamartomas. In addition, for folliculosebaceous cystic hamartomas, treatment with CO2 and Er:Yag lasers has been successfully reported.

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PRESENTERS
Amy Priess, MD, Vesna Petronic-Rosic, MD, Keyoumars Soltani, MD, Christopher R. Shea, MD, Shail Busbey, MD

HISTORY OF PRESENT ILLNESS
A 31-year-old white woman presented with an eight-month history of a rash on her dorsal hands. The rash began as thin, dry skin in November and progressed to blistering in June, July, and August. The blisters occurred 1 week prior to her menses. Lesions healed with scarring. Treatment with multiple over-the-counter hand lotions did not change the lesions. The patient was seen by her primary care physician and had a negative workup for porphyria cutanea tarda (PCT).

PAST MEDICAL HISTORY
Recurrent back pain

MEDICATIONS
Naproxen as needed for pain

FAMILY HISTORY
No history of any blistering disorders

PHYSICAL EXAMINATION
Well-developed woman in no apparent distress. Skin examination revealed multiple, violaceous, scarred plaques, hyperpigmented macules, a few erosions, and a few bullae on the dorsa of both hands. The skin exam was otherwise unremarkable. No mucosal lesions were present.

LABORATORY DATA
Fractionated plasma porphyrins were within normal limits

DERMATOPATHOLOGY
Two four-mm punch biopsy specimens were obtained from lesional and perilesional skin and sent for histopathology and direct immunofluorescence, respectively. Histologic examination revealed a subepidermal blister, with a few necrotic keratinocytes and mild spongiosis present in the overlying epidermis. The blister cavity contained fibrin, lymphocytes, and erythrocytes. There was exocytosis of lymphocytes adjacent to the cleft. Within the dermis, a sparse perivascular lymphohistiocytic infiltrate was present, with moderate solar elastosis. Periodic-acid Schiff stain highlighted the basement membrane at the base and the roof of the blister cavity. The basement membrane of the papillary dermal vessels was thickened. Direct Immunofluorescence revealed deposition of IgG, C_3, and fibrinogen at the dermal-epidermal junction and as a thick layer around papillary dermal vessels.

DIAGNOSIS
Pseudoporphyria

TREATMENT & COURSE
It was recommended that the patient discontinue naproxen and other NSAIDs. Her lesions improved; however, she had two new blisters six weeks after discontinuation of naproxen, after taking clarithromycin and a cough suppressant for an upper respiratory tract infection.

DISCUSSION
Pseudoporphyria is a bullous disorder with clinical and histologic features similar to PCT, but without abnormalities in porphyrin metabolism. This term was first used to describe patients with chronic renal failure and a PCT-like bullous eruption, but was expanded to include pseudoporphyria from many other etiologies. Pseudoporphyria is attributed to multiple drugs

including nonsteroidal anti-inflammatory drugs (including COX-2 inhibitors), diuretics, antibiotics, retinoids, cyclosporine, and oral contraceptives among others. Ultraviolet radiation from tanning beds, PUVA, and excessive sun exposure without concomitant photosensitizers, in addition to chronic renal failure with or without hemodialysis, have also been implicated in pseudoporphyria.

NSAIDs are the most frequently reported cause of pseudoporphyria. Of the NSAIDs, naproxen is the most common culprit. The majority of cases of naproxen-induced pseudoporphyria occur in children. In adults, naproxen-induced pseudoporphyria occurs primarily in women.

Clinically, pseudoporphyria usually presents similar to PCT, with vesicles, bullae, skin fragility, and scarring on sun-exposed skin, most commonly the dorsa of the hands. Unlike PCT, however, pseudoporphyria is not associated with hyperpigmentation, hypertrichosis, sclerodermoid changes, or porphyrin abnormalities. Pseudoporphyria may also resemble erythropoetic protoporphyria with facial scarring. This has occurred with naproxen-induced pseudoporphyria in children.

Histologically, pseudoporphyria is characterized by subepidermal bullae with or without festooning with a scant to mild lymphocytic perivascular infiltrate. Thickening of the walls of vessels may be seen with PAS stain. Granular deposits of IgG and C_3 at the dermal-epidermal junction and in the vasculature of the upper dermis are often demonstrated on direct immunofluorescence. However, this is not required for diagnosis. Indirect immunofluorescence is negative.

Treatment for pseudoporphyria requires discontinuation of the offending agent and adequate sun protection. Pseudoporphyria associated with hemodialysis has been successfully treated with N-acetylcysteine.

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PRESENTERS
Rebecca Satoskar, MD, Christopher R. Shea, MD, K.M. Soltani, MD

HISTORY OF PRESENT ILLNESS
This 71-year-old man with chronic idiopathic myelofibrosis was admitted one month before dermatologic consultation, because of esophageal candidiasis and neutropenic fevers, occurring two weeks after his most recent chemotherapy. A peripherally inserted central catheter (PICC) had initially been placed in the left upper arm. Within days a pink-violaceous plaque developed at the PICC site. Because a tract infection seemed possible, the PICC was removed and another PICC was placed in the right arm. However, the left arm plaque continued to expand rapidly, attaining a final size of 20 cm. Because of concern about possible necrotizing fasciitis, the patient underwent extensive debridement down to muscle. Surgical findings were an organizing fascial hematoma and granulation tissue, without purulence or muscle necrosis. Cultures for bacteria and fungi were negative. The debrided wound was left to heal by secondary intention. A few days later the right arm also developed a pink-violaceous, indurated plaque at the new PICC site. The line was removed but the plaque continued to grow to four cm. Dermatology was consulted and performed a biopsy.

PAST MEDICAL HISTORY
Chronic idiopathic myelofibrosis, otherwise non-contributory

PAST SURGICAL HISTORY
Non-contributory

REVIEW OF SYSTEMS
The patient had had intermittent fevers throughout his hospitalization

MEDICATIONS
Imipenem, ciprofloxacin, vancomycin, caspofungin, and granulocyte-colony stimulating factor (GCSF)

ALLERGIES
No known drug allergies

FAMILY HISTORY
Non-contributory

SOCIAL HISTORY
Non-contributory

PHYSICAL EXAMINATION
The right upper arm had a 4 cm, moderately well demarcated, indurated, violaceous plaque, with a slightly depressed center and pink erythematous border, minimally tender to palpation. The left upper arm was extensively bandaged, with a wound-vac in place.

LABORATORY DATA
Left arm operative cultures: negative for bacteria and fungus. Right arm tissue cultures: negative for pathogenic bacteria. White blood cell count low, but not neutropenic.

DERMATOPATHOLOGY
There was marked papillary dermal edema and extensive hemorrhage. The reticular dermis had a superficial and deep interstitial infiltrate composed predominantly of neutrophils and also some eosinophils and lymphocytes. There was extensive leukocytoclasis, but vasculitis was not identified. Periodic acid-Schiff, methenamine silver, Gram, and Fite stains were negative for infectious organisms.

DIAGNOSIS

Neutrophilic dermatosis, consistent with Sweet syndrome (acute febrile neutrophilic dermatosis) with prominent features of pathergy. This presentation is likely related either to chronic idiopathic myelofibrosis or to treatment with GCSF.

TREATMENT & COURSE

Treatment with GCSF was discontinued, as the patient was no longer neutropenic. Prednisone was started at a dose of 40 mg daily and gradually tapered over eight weeks. The plaque on the right arm improved rapidly and has not recurred. The surgical wound on the left upper arm was subsequently closed in the operating room via several flaps each extending about one centimeter under the dermis in a circumferential manner and is healing well.

DISCUSSION

Sweet syndrome, the prototype of neutrophilic dermatoses, occurs in five settings: malignancy-associated (especially hematologic), associated with inflammatory or autoimmune disease, drug-induced (including GCSF), pregnancy-related, and idiopathic. The lesions are tender, edematous, erythematous plaques that may have a pseudovesicular or targetoid appearance, or true vesicles, pustules, or ulcers. Histology reveals a dense perivascular and interstitial neutrophilic infiltrate, edema, and leukocytoclasia with minimal vasculitis. The differential diagnosis includes pyoderma gangrenosum, rheumatoid neutrophilic dermatosis, bowel-associated dermatitis-arthritis syndrome, neutrophilic eccrine hidradenitis, urticarial vasculitis, erythema elevatum diutinum, erythema multiforme, Behçet disease, halogenoderma, connective tissue diseases, and granulomatous diseases. Infections including pyoderma, cellulitis, necrotizing fasciitis, deep fungal infection, and mycobacterial infection must be ruled out by negative stains and cultures, and the diagnosis of Sweet syndrome usually requires clinical-pathological correlation. Our patient was initially misdiagnosed as having a bacterial infection, as not uncommonly occurs. The diagnosis of Sweet syndrome should be suspected in patients who evince compatible clinical findings with negative microbial culture and failure to respond to antibiotics, especially in an appropriate clinical setting such as hematologic malignancy or autoimmune disease. If Sweet syndrome is suspected, debridement of lesions is contraindicated. Lesions generally respond to prednisone, initially dosed at 0.5-1.0 mg/kg/day and tapered over 2-3 months.

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PRESENTERS
Miriam Hanson, MD and Vesna Petronic-Rosic, MD

HISTORY OF PRESENT ILLNESS
A 52-year-old African-American male presented with a 3-month history of asymptomatic hyperpigmentation on his face and neck first noted after significant sun exposure. His past medical history was noteworthy for coronary artery spasm treated with diltiazem for 5 years prior to presentation. The patient did not have any other history of inflammatory skin diseases, photosensitivity, or systemic illness.

PAST MEDICAL HISTORY
Coronary artery spasm
Right inguinal hernia
Arthritis
Urethral stricture, status post dilation
Esophagitis
Seasonal allergies

MEDICATIONS
Diltiazem 120 mg daily
Aspirin 81 mg daily

ALLERGIES
Sulfa drugs

SOCIAL HISTORY
Works as a music tour and production manager in Chicago

FAMILY HISTORY
Non-contributory

PHYSICAL EXAMINATION
Slate-gray reticulated hyperpigmented patches were found over the anterior and posterior neck with sparing of the submental region and retroauricular areas bilaterally.

DERMATOPATHOLOGY
Microscopic examination revealed scattered necrotic keratinocytes within the epidermis at all levels. There was a significant number of melanophages with fine granular pigment scattered throughout the dermis and a superficial perivascular infiltrate composed of lymphocytes and histocytes.

DIAGNOSIS
Phototoxic eruption with reticulated hyperpigmentation induced by diltiazem

TREATMENT AND COURSE
The patient was educated on sun avoidance and protection. He was started on topical 0.05% fluocinonide ointment and instructed to discontinue the diltiazem. There has been a slight improvement in the degree of pigmentation.

DISCUSSION
Diltiazem hydrochloride is a calcium channel blocker that is commonly used in the treatment of coronary artery disease and hypertension. The spectrum of cutaneous eruptions in association with diltiazem is extensive, ranging from urticaria and exanthems to serious adverse events such as Stevens-Johnson syndrome, toxic epidermal necrolysis, and vasculitis.

Recently, several patients have been reported with a characteristic reticulated hyperpigmentation on sun-exposed areas after long-term administration of diltiazem.

Scherschun et al reported the first four cases of diltiazem-induced hyperpigmentation in 2002. All reported patients were African-American and had been taking long-acting diltiazem for at least six months. The morphological appearance of the hyperpigmentation was reticulated and slate-gray to blue-gray in color. The hyperpigmention was reversible after discontinuation of diltiazem, sun avoidance, and treatment with hydroquinone cream. Several other authors have reported patients with similar clinical and histological findings.

The pathogenesis of this unusual reticulated hyperpigmentation is not entirely understood. Ultrastructural analysis by Scherschun et al demonstrated fully-melanized melanosomes within the dermal cells without deposits of drugs or metabolites. It has been hypothesized that sun exposure may induce free-radical complexes with either the drug or its metabolites. The two primary metabolites of diltiazem are desacetyldiltiazem and desmethyldiltiazem; however as many as nine metabolites have been identified.

It is also unclear what role pharmacokinetics play in this process. The photodistributed hyperpigmentation has only been noted in patients on long-term treatment or extended release formulations. Numerous pharmacologic studies have demonstrated bioequivalence of the extended release and conventional formulations with similar pharmacokinetics. From the cases reported, no correlation has been made between the dosage of diltiazem and the time to onset of pigmentation.

We present this case for educational purposes. Early recognition of this characteristic hyperpigmentation is important because discontinuation of the drug is a key aspect of management.

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PRESENTERS
Arlene Molino, MD, Lucille White, MD, Christopher Shea, MD

HISTORY OF PRESENT ILLNESS
The patient is a 13-year old African American male with a history of bilateral slipped capital femoral epiphyses who presented with bullae on the chest and arms shortly after a two hour bilateral percutaneous hip pinning procedure under general anesthesia. The patient complained of a burning sensation at the blister sites.

MEDICATIONS
Pre-operative: Intravenous: midazolam, metoclopramide, fentanyl
Intra-operative: Intravenous: cefazolin, odansetron
Post-operative: docusate, diphenhydramine, morphine PCA, Tylenol with codeine, albuterol

ALLERGIES
None

PHYSICAL EXAMINATION
Four 0.5 to 1.5 cm tense bullae containing serious fluid and two 0.3 to 0.5 cm erosions were distributed on the chest. On the left flexor forearm, five bullae similar to those on the chest, were arranged in a linear fashion approximately 2.3 cm apart, decreasing in diameter from 1.5 cm to 0.5 cm moving proximally.

DERMATOPATHOLOGY
A 4 mm punch biopsy of an intact bulla from the left arm revealed dermal-epidermal separation and superficial perivascular dermal hemorrhage. Flocculent material was seen in the blister cavity without significant numbers of inflammatory cells. A few dyskeratinocytes were noted in the overlying epidermis. There was no evidence of viral cytopathic effects.

DIAGNOSIS
Thermally induced bullae secondary to an intra-operative warming blanket

TREATMENT & COURSE
The lesions were treated with supportive care and bacitracin/polymyxin ointment to erosions. The bullae resolved with residual hyperpigmentation.

DISCUSSION
The differential diagnosis for bullae in a child after surgery includes contact dermatitis, infusion reactions, herpesvirus infection, arthropod bite, and thermal injury. Forced-air warming devices are commonly used in the peri-operative setting for the prevention and management of hypothermia. In this case, an upper torso warming blanket was applied and connected to a calibrated convective warming unit at a constant temperature. Warm air travels from the unit to the blanket and exits via perforations on the patient side of the blanket. The perforations on the warming blanket used for this patient's operation were spaced 2.5 cm apart, closely approximating the distance observed between the bullae on the left extensor forearm.
In the anesthesia and surgical literature, thermal injury due to warming devices has been infrequently reported. A majority of the reported cases resulted in serious cutaneous damage with longer term sequelae. Several of these intra-operative thermal blanket injuries occurred while the patient was placed on top of the warming device rather than beneath it. This complicates the etiology of the reported injuries, combining both mechanical and thermal stress. Lee et al suggest that the true number of injuries may be underreported due to the typical course of early spontaneous healing.
Dermatologists should be aware of this complication and consider thermally induced cutaneous injury in the differential diagnosis of post-operative blisters.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE 16**

PRESENTERS
Yaohui Gloria Xu MD, Ph.D and Sarah L. Stein MD

HISTORY OF PRESENT ILLNESS
The patient is a 5-month-old African American male who presented at 10 weeks of life for evaluation of multiple asymptomatic reddish lesions that had developed over the preceding week on his trunk and extremities. The mother denied any constitutional symptoms or prior vaccination.

PAST MEDICAL HISTORY
Born at term via normal spontaneous vaginal delivery to a healthy 18-year-old mother

PAST SURGICAL HISTORY
None

MEDICATIONS
Benadryl and calamine lotion

ALLERGIES
No known drug allergies

FAMILY HISTORY
Non-contributory

SOCIAL HISTORY
The patient lives with his mother and grandmother.

PHYSICAL EXAMINATION
On initial examination, there were large (3-5 cm), well-defined, oval, thin, targetoid plaques with an erythematous border and dusky center scattered on the trunk and extremities. The lesions have persisted and a few new lesions have continued to develop.

LABORATORY DATA/IMAGING
The following were within normal limits: CBC with differential, SGPT, bilirubin, ANA, and SS-B antibody. In addition, an ECG and echocardiogram were normal. The following were abnormal: SS-A antibody over 100 (nl < 20), alkaline phosphatase 445 (100-390) and SGOT 42 (8-37)

DERMATOPATHOLOGY
None

DIAGNOSIS
Neonatal lupus erythematosus

TREATMENT AND COURSE
During the initial visit, a clinical diagnosis of possible acute hemorrhagic edema of childhood versus erythema multiforme, fixed drug reaction or neonatal lupus was made and a biopsy was recommended but declined by the family. The patient was seen in follow up a week later and noted to have persistent lesions as well as new similar bright red oval plaques. A serum study confirmed the diagnosis of neonatal lupus. The patient was treated with hydrocortisone 2.5% ointment for the skin lesions, and strict sun avoidance was recommended. He was further evaluated by a pediatric cardiologist, which revealed a normal cardiac exam. The patient's mother was sent to rheumatology for evaluation for any active connective tissue disease despite her absence of symptoms.

DISCUSSION
Neonatal lupus erythematosus (NLE) is a rare autoimmune disorder typically characterized by cutaneous lesions, and/or cardiac, hepatic and hematologic abnormalities. The involvement of the heart is associated with a significantly increased morbidity and mortality, while the involvement of

skin, liver and blood appears self-limited. It is thought to be caused by transplacental passage of maternal autoantibodies against Ro (SSA), La (SSB), and/or less commonly, U1-ribonucleoprotein (U1-RNP). However, other factors must be implicated since only 1% of infants with positive maternal autoantibodies actually develop NLE. Mothers of NLE patients may have symptoms of lupus erythematosus, Sjögren syndrome, rheumatoid arthritis, mixed connective tissue disease, or undifferentiated connective tissue disease, or remain asymptomatic despite bearing circulating autoantibodies. The incidence of NLE in the US is approximately 1 in 20, 000 live births with a slight female predominance and no racial predilection.

Half of NLE patients have cutanenous lesions that are typically manifested as slightly scaly, annular erythematous plaques, resembling those of subacute cutaneous lupus erythematosus both clinically and histologically. The lesions may be present at birth or within the first few weeks of life, often precipitated by sun exposure. The head and neck areas are more commonly affected than the trunk and extremities. A classic distribution in the periocular area may give an "owl-like" appareance. The lesions spontaneously resolve with minimal residual scarring at about 6 month of age when the maternal autoantibodies are cleared from the fetal circulation. Occasionally, atrophic telangiectatic changes may remain. Various forms of cardiac rhythm disturbance are noted in NLE patients with or without skin findings. The most common manifestation is irreversible complete heart block, with an incidence of 15-30%, a mortality rate approaching 20-30% and two thirds of those patients warrant a permanent pacemaker. Heart block usually develops in utero between the 18^{th} to 20^{th} weeks of pregnancy. Less commonly, hepatobiliary disease is seen, varying from transient elevation of transaminase to conjugated hyperbilirubinemia with or without transaminase abnormality. Hematologic disturbance may be present as transient thrombocytopenia, neutropenia, and/or hemolytic anemia.

NLE with skin involvement can be treated with topical corticosteroids and sun avoidance needs to be emphasized. NLE involving skin, blood and liver is usually self-limited and therefore no aggressive treatment is warranted. However, patients with congenital heart block often require a pacemaker insertion. Asymptomatic mothers of NLE patients need appropriate evaluation for lupus and other connective tissue diseases. Counseling and monitoring of subsequent pregnancies is important because the chance of having another child with NLE is as high as 25%. Close monitoring of fetal heart rate and fetal echocardiogram can be utilized to detect signs of congenital heart block in utero.

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PRESENTERS
Bernhard Ortel, MD, Gloria Xu, MD, Vesna Rosic-Petronic, MD, Sarah L. Stein, MD

HISTORY OF PRESENT ILLNESS
The patient, a currently 16-year-old African American male, presented two years ago with cutaneous lesions on the right half of his body, that first bothered him at age 12. He presented recently complaining of persistent callus-like thickening of the skin lesions on the right palm and sole.

PAST MEDICAL HISTORY
No significant past medical history. Normal growth and development.

PAST SURGICAL HISTORY
No significant past surgical history.

REVIEW OF SYSTEMS
All systems except skin without complaints

MEDICATIONS
ASA and acetaminophen, PRN

ALLERGIES
No known allergies to drugs or foods.

FAMILY HISTORY
No history of skin or other significant disease in the patient's family.

SOCIAL HISTORY
The patient goes to high school where he does well academically and in sports.

PHYSICAL EXAM
The right side of the body has hyperpigmented, well demarcated plaques with a variable verrucous and velvety surface involving the cheek, neck, arm, and trunk along Blaschko's lines. On the palm, a linear, thickened, yellow, hyperkeratotic plaque forms an extension of the arm plaque. On the sole, two round, yellow, hyperkeratotic plaques are present over pressure points.

LABORATORY DATA
No data collected.

DERMATOPATHOLOGY
The epidermis exhibits verruciform papillomatosis without significant atypia. There is a very sparse, superficial lymphohistiocytic dermal infiltrate.

DIAGNOSIS
Epidermal nevus

TREATMENT AND COURSE
Until his most recent visit the patient used only Vaseline. For his palmoplantar hyperkeratoses, 40% urea cream and 0.1% tazarotene cream were prescribed.

DISCUSSION

Epidermal nevi (EN) are hamartomatous lesions arising from the embryonic ectoderm occurring at a rate of approximately 1 in 1000 live newborns. One tenth or more of patients with EN have associated pathologies of the eye, the nervous system, or the musculoskeletal system, and are labeled as the epidermal nevus syndrome. These associations become more common with more extensive epidermal involvement or that of head and neck. Our patient did not exhibit signs of organ pathology other than his skin findings.

Many lines of evidence support the concept that EN expression is based on genomic mosaicism. In growing embryos, epidermal cells move from the neural crest to the periphery by directional proliferation. This migration pattern of mutated clonal populations is evident in the distribution pattern that was described by and is named after Alfred Blaschko (Blaschko, 1901). The epidermal pattern thus represents cutaneous expression of genomic mosaicism. The type, timing, and distribution of genomic mutations in a mosaic will determine, if and how extensively extracutaneous tissues are involved. Rolf Happle (Happle 1987) proposed that mosaicism allows survival of lethal genes in a limited somatic cell population.

Although the mutation is the same throughout the discontinuous skin lesions, anatomical variations lead to different appearances in skin of different localization. In our patient this was evident on his palm and sole.

When germ cells are part of the mosaicism, the expression of the defective gene in the offspring of a patient with certain mutations will be lethal. However, if a gene is affected that is only expressed in the skin, gamete mutation will allow survival of the offspring. The defective gene will then be expressed in the entire integument. This is the case for patients with an EN of the epidermolytic type. In these patients a mosaic expression of mutated keratin 1 or 10 has been demonstrated in EN but not surrounding normal epidermis (Paller, 1994). If this specific mutation is present in the gametes of patients, their offspring will present with bullous congenital ichthyosiform erythroderma (also known as epidermolytic hyperkeratosis).

These facts of the genetic background of EN clearly demonstrate the need for genetic counseling. Our patient had no epidermolytic changes by clinical or histopathological exam.

Therapy of EN is most often unsatisfactory. Keratolytics and emollients may be helpful. Topical and systemic retinoids are effective but, as the other topicals, only work as long as treatment is maintained. Our patient required keratolytics only for the callous lesions on the palm and sole. Carbon dioxide or other non-targeted laser therapies often work permanently only if some degree of scarring is induced. Surgical excision and repair may be a good solution but its use is limited by excessive skin involvement.

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PRESENTERS
Elaine F. Kung, MD, Vesna Petronic-Rosic, MD, Keyoumars Soltani, MD

HISTORY OF PRESENT ILLNESS
This is a 27 year-old Caucasian man with B-cell lymphoblastic leukemia diagnosed and treated by matched unrelated donor stem cell transplant two years ago. Two months later, he developed erythematous plaques on his trunk and back, as well as elevation of transaminases. Afterwards, prednisone and cellcept were used as treatment for graft-versus-host disease. He presented to dermatology clinic two years later with atrophic hypopigmented plaques of the lateral canthi. The peri-ocular lesions first developed as scaly erythematous plaques a year after being diagnosed with GVHD. Aquaphor and 1% hydrocortisone were recommended by his hematologist. Later, Elidel cream was used, followed by Protopic ointment. In addition, he developed a scaly erythematous plaque on his right leg after an injury this year. He reported that the peri-ocular and leg plaques became more scaly and erythematous when the prednisone dose was tapered.

PAST MEDICAL HISTORY
Deep vein thrombosis, necessitating coumadin therapy (2003)
Superficial spreading melanoma, Clarke Level II, Breslow depth 0.3mm removed from abdomen (2004)

REVIEW OF SYSTEMS
Patient denied any fevers, chills, weight loss, fatigue, or pruritus.

MEDICATIONS
Prednisone 12.5 mg PO QD, Cellcept 1000mg PO TID, Prograf between 4mg PO BID, Protopic 0.1% ointment BID.

PHYSICAL EXAMINATION
Atrophic hypopigmented plaques are present near lateral canthi. An erythematous plaque with scale is present on his right leg.

LABORATORY DATA
Bone marrow biopsy, flow cytometry, and cytogenetics in 2003 demonstrated pro-B ALL (CD34+, CD19+, CD10-, CD24-) with translocation(4,11).

DERMATOPATHOLOGY
Right canthus biopsy: Sections of skin have an atrophic epidermis, effacement of the rete ridge pattern, and atypia of basal keratinocytes. There are focal areas of hyperkeratosis. The papillary dermis has some homogenization of collagen and slight decrease of elastic fibers, suggestive of an early or nearby lesion of lichen sclerosus et atrophicus.

Right outer ankle: Sections of skin have an atrophic epidermis, effacement of the rete ridge pattern, and overlying hyperkeratosis with focal areas of parakeratosis. The papillary dermis is homogenized and edematous. The reticular dermis shows dense fibrosis extending to the subcutaneous fat with thickened collagen entrapping appendageal structures. A scant perivascular lymphohistiocytic infiltrate with rare plasma cells is present. The pathologic features are consistent with morphea along with lichen sclerosus et atrophicus.

DIAGNOSIS
Lichen sclerosis et atrophicus following allogenic bone marrow transplantation

TREATMENT AND COURSE

The patient continues to be treated for graft-versus-host disease with prednisone and cellcept and topically with Protopic 0.1% ointment BID. He has not developed any new lesions in the last 3 months.

DISCUSSION

Chronic graft-versus-host disease (GVHD) is a major complication of allogeneic bone marrow transplantation. It is a multi-organ disease, which often involves the skin. Chronic cutaneous GVHD is classically divided into two major clinical categories, which are lichenoid and sclerodermoid. Classic presentation of lichenoid GVHD includes flat-topped, pink to violaceous, scaly papules. The initial presentation of sclerodermoid GVHD is morpheaform and usually on the trunk, whereas, the advanced stage may involve diffuse areas of sclerosis. Lichen sclerosus and morphea are related, but viewed as distinct clinicopathologic entities. The histological description of lichen sclerosus includes follicular plugging, epidermal thinning with vacuolar basal alteration, homogenization of papillary dermis with loss of elastic fibers, and lichenoid infiltrate. Those features along with thickened collagen bundles in the lower reticular dermis have been interpreted as an overlap between lichen sclerosus and morphea. Although lichen sclerosus has not been noted as a manifestation of chronic sclerodermoid GVHD in major dermatologic textbooks and review articles on chronic cutaneous GVHD, a number of case series have reported its coexistence with morphea.

The incidence of chronic cutaneous GVHD has been increasing for the following reasons: use of reduced-intensity preparative regimens expanding the eligibility and upper age limit of patients for allogeneic transplant; early withdrawal of post-transplant immunosuppression; use of donor lymphocyte infusion to incite a graft-versus-malignancy effect; and increasing use of peripheral blood rather than marrow. As dermatologists, we need to recognize these lesions in allogeneic transplant recipients to help facilitate diagnosis of GVHD and prompt treatment.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE 19**

PRESENTERS

Vishakha Sharma, MD, Vesna Petronic-Rosic, MD, Pedram Gerami, MD

HISTORY OF PRESENT ILLNESS

The patient is a 21 year old male with no significant past medical history who presented with a two week history of a non-pruritic rash that began on his abdomen and spread to his left thigh one week later. He was initially treated by an outside physician with topical antibiotics three times a day for one week with no resolution of his rash.

PAST MEDICAL, SURGICAL AND FAMILY HISTORY

Non-contributory

REVIEW OF SYSTEMS

Denies fever, chills, night sweats, or weight loss. Remainder of ROS otherwise unremarkable.

PHYSICAL EXAMINATION

Multiple discrete 4-5mm erythematous eruptive papules with a central crust were distributed on the lower abdomen and left thigh. Some papules were translucent and with a central depression.

LABORATORY DATA

HIV negative

DERMATOPATHOLOGY

Lower abdomen biopsy: Sections of skin show an epidermis with central ulceration with necrotic keratinocytes and parakeratosis lateral to the ulcer. Within the dermis, there is a superficial and deep wedge-shaped infiltrate composed of lymphoid cells, many of which are atypical, with large hyperchromatic nuclei and prominent nucleoli. The immunohistochemical findings are as follows: CD1a stains dendritic cells within the epidermis and dermis. CD3 stains 80% of the cells in the lymphoid infiltrate. CD4 stains 70% of the cells in the lymphoid infiltrate. CD20 (L26) stains approximately 5% of the cells in the infiltrate. CD30 stains approximately 30% of the cells in the lymphoid infiltrate, all of which are large and atypical.

DIAGNOSIS

Regional lymphomatoid papulosis

TREATMENT & COURSE

The patient was seen in follow-up three weeks later by which time many of the lesions had resolved. However, he was interested in treating the remainder of the lesions and was thus started on minocycline 100mg twice a day and counseled on methotrexate as a possible future treatment.

DISCUSSION

Lymphomatoid papulosis is a chronic, recurring, self-healing cutaneous eruption consisting of crops of papules and nodules first described by Dupont in 1956 and thereafter by Macaulay in 1968. At the time, it was characterized as being clinically benign, but histologically malignant. It is now regarded as a low-grade cutaneous T cell lymphoma by most and classified as such in the WHO-EORTC combined classification.

Lymphomatoid papulosis has been subdivided into types A, B, and C. Type A is characterized by a mixed cellular wedge-shaped infiltrate with large atypical cells that are CD30+, CD3+, and CD8- constituting less than 50% of the infiltrate. Type B has a perivascular or band-like dermal infiltrate with epidermotropism and small to medium sized lymphocytes with cerebriform nuclei that stain CD3+, CD4+, CD8-, and CD30-. Type C is characterized by a monotonous population of large atypical cells and few inflammatory cells,

and appears histologically similar to anaplastic large cell lymphoma. Similar to type A, the large cells are CD30+, CD3+ and CD8-.

Clinically, recurrent crops of erythematous, dome-shaped papules or nodules spontaneously regress within weeks to months, often leaving atrophic scars. The lesions in lymphomatoid papulosis are typically widely dispersed over the trunk and extremities. However, a small subset of patients have presented with regional lymphomatoid papulosis, where lesions are usually confined to a segmental unilateral area. To date, there have been over ten such reported cases. Regional lymphomatoid papulosis appears to be more common in children and young adults with a mean age of presentation at twenty-eight years old as compared to the more common widespread lymphomatoid papulosis that has its peak in the fifth decade of life. In several cases, the lesions remained limited to one anatomic site before becoming generalized, after twenty-four years in one instance and after four years in another.

Lymphomatoid papulosis has an overall good prognosis, with disease specific ten year survival at 100%. Approximately 10% of patients with lymphomatoid papulosis will develop a second lymphoma, most commonly Hodgkin lymphoma, mycoses fungoides, or anaplastic large cell lymphoma, the most common of which is primary cutaneous anaplastic large cell lymphoma which has a favorable five year survival of >90% and usually responds well to treatment.

Management of lymphomatoid papulosis is variable and because it runs a benign course and no therapy has been proven to change the likelihood of development of a second malignancy, observation is a treatment option. However, if significant scarring occurs or if the lesions are troublesome to the patient, treatment options can include low dose superficial radiotherapy, topical corticosteroids, intralesional interferon, low dose methotrexate, bexarotene, mechlorethamine ointment, oral antibiotics, and phototherapy. Our patient's lesions did not leave significant scarring, but the patient wished to initiate some treatment. We chose to begin with minocycline, reserving methotrexate in the case of a treatment failure.

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PRESENTERS
Olga Ulitsky, MD and Sarah L. Stein, MD

HISTORY OF PRESENT ILLNESS
The patient is a four-month-old African American male who presented at 10 weeks of life for evaluation and treatment of scalp hair loss. The patient was born by vaginal delivery at 33 weeks gestation. His mother noticed diffuse redness and swelling of the scalp immediately after delivery, both of which subsided over the next few days. At one week of age, his mother noted areas of hair loss that worsened over the subsequent 3 weeks. She recalled that the delivery was uncomplicated and denied use of forceps or vacuum assistance.

PAST MEDICAL HISTORY
The patient was born via vaginal delivery at 33 weeks gestation by labor induction due to preeclampsia. The neonatal course was complicated by hyperbilirubinemia and poor feeding. The child spent one month in the special care nursery at Michael Reese Hospital. The patient has reached normal developmental milestones.

MEDICATIONS
None

FAMILY HISTORY
Maternal preeclampsia as above.

SOCIAL HISTORY
Lives with his mother

PHYSICAL EXAMINATION
Over the occipital, parietal, and frontal scalp in circular distribution there was an area of alopecia. The affected scalp was shiny. Focal erythematous patches were noted within areas of alopecia. No scaling or scalp edema was appreciated. There were two 0.5 cm white pebbly plaques on the left ankle.

DERMATOPATHOLOGY
None performed

DIAGNOSES
Halo scalp ring
Calcinosis cutis

TREATMENT AND COURSE
Mother was counseled regarding the benign nature of patient's condition. Observation and expectant management was recommended. At follow-up 2 months later, excellent hair regrowth was noted in most of the involved area.

DISCUSSION
Halo scalp ring is an uncommonly reported alopecia of the scalp that usually develops perinatally. This form of alopecia has been linked to caput succedaneum and represents pressure necrosis of neonatal scalp. This necrosis probably results from pressure induced by the cervical os, causing reduced blood flow in the scalp and leading to ischemic damage of the tissue. Caput succedaneum is a common birth injury attributed to cervical, uterine, or vaginal pressure on the fetal presenting part, causing a diffuse edematous swelling of the soft tissues of the scalp which may extend across the midline and across suture lines. It is more common with prolonged labor in primigravidas.

The incidence of halo scalp ring is unknown; however. according to the literature, it is most likely underreported. Thus far, the condition has not been reported in the pediatric literature

and appears only in reviews of pediatric dermatology cases. Therefore, this entity may not be familiar to most pediatricians. Referrals to pediatric dermatologists may not be made due to spontaneous hair regrowth in most cases.

Halo scalp ring is a benign diagnosis that does not require further investigation for congenital anomalies. However, it can mimic other scarring alopecias that require evaluation. For example, an area of alopecia surrounded by a rim of long hairs on the scalp is known as the "hair collar" sign and suggests underlying neuroectodermal defects. Other traumatic alopecias may be related to use of fetal scalp monitors or other devices. These can be excluded based on the shape of the alopecia and/or history.

The natural course of this alopecia is gradual hair regrowth. However, hemorrhagic caput succedaneum may cause destruction of hair follicles resulting in areas of scarring alopecia. Observation is recommended initially. Surgical excision of residual scarred areas may be considered at school age.

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