Chicago Dermatological Society

May 2010
Monthly Educational Conference

Program Information
Continuing Medical Education Certification
and
Case Presentations

Wednesday, May 12, 2010

Conference Host:
Department of Dermatology
Rush University Medical Center
Chicago, Illinois

Program

Committees & Registration

8:00 a.m. - 9:00 a.m.	IDS Board of Directors
9:00 a.m. - 10:00 a.m.	CDS Plans & Policies Committee

Program Activities

8:30 a.m.	Registration & Continental Breakfast Searle Conference Center
9:00 a.m. - 10:00 a.m.	RESIDENT LECTURE "Ectopic Mineralization Disorders - The Paradigm of Pseudoxanthoma Elasticum" Jouni Uitto, MD, PhD *Room 542 Brainard*
9:30 a.m. - 11:00 a.m.	Clinical Rounds – Patient Viewing *Room 264 Professional Building (Elevator III)* Slide Viewing *Room 538 (Fenger)*
11:00 a.m. - 12:15 p.m.	General Sessions *Room 542 (Brainard)*
11:00 a.m.	CDS Business Meeting
11:15 a.m.	FREDERICK MALKINSON LECTURE "Progress in Epidermolysis Bullosa - Clinical Implications of Basic Research" Jouni Uitto, MD, PhD
12:15 p.m. - 1:00 p.m.	Awards Luncheon & President's Address *Main Dining Area - Room 500*
1:00 p.m. - 2:30 p.m.	Case Discussions *Room 542 (Brainard)*
2:30 p.m.	Meeting adjourns

Mark the Date!

Next CDS monthly meeting – Wednesday, June 9, 2010
Loyola University Medical Center; Maywood
Watch for details on the CDS website: www.ChicagoDerm.org

Guest Speaker

Frederick Malkinson Lecture

Jouni Uitto, MD, PhD

Professor of Dermatology and Cutaneous Biology
Professor of Biochemistry and Molecular Biology
Chair of the Department of Dermatology and Cutaneous Biology
Jefferson Medical College; Philadelphia, Pennsylvania

Jouni Uitto, MD, PhD, has been professor of dermatology and cutaneous biology, and biochemistry and molecular biology, and chair of the Department of Dermatology and Cutaneous Biology at Jefferson Medical College, in Philadelphia, Pennsylvania, since 1986. He is also Director of the Jefferson Institute of Molecular Medicine at Thomas Jefferson University. He received his MD and PhD degrees from the University of Helsinki, Finland, and completed his residency training in dermatology at Washington University School of Medicine, St. Louis, Missouri.

Dr Uitto is internationally recognized for his research on connective tissue biochemistry and molecular biology in relation to cutaneous diseases and skin aging. Dr Uitto's publications include 583 original articles in peer-reviewed journals, 273 textbook chapters and review articles, and 880 abstracts on presentations at national and international meetings.

Dr Uitto has been the recipient of numerous national and international awards, including a Research Career Development Award from the National Institutes of Health, the Distinguished Service Award from the Dystrophic Epidermolysis Bullosa Research Association of America, the William Montagna Lectureship Award from the Society for Investigative Dermatology, the Hermann Pinkus as well as Elson B. Helwig Memorial Lectureship Awards from the American Society of Dermatopathology, the Earl of Litchfield Lectureship Award of Oxford University, The Dohi Memorial Lectureship Award from the Japanese Dermatological Society, and the Kung-Sun Oh Memorial Lectureship from Yonsei University, Seoul, Korea. In 1993, he was selected as the recipient of the Marion B. Sulzberger Memorial Award and Lectureship and was designated as the "Professor of the Year" by the American Academy of Dermatology. Dr Uitto has been awarded the prestigious Matti Äyräpää Lectureship, the highest physician-scientist award in his native country, Finland. In 1996, Dr Uitto was appointed as Anglo-American Visiting Professor of the Royal Society of Medicine, London, United Kingdom. He has received an Honorary Doctorate in Medicine from the University of Kuopio and the University of Oulu, Finland, as well as the Honorary Professor title from China Medical University, and Honorary Visiting Professor from the University of Helsinki. Most recently, he was the recipient of the first SID Kligman/Frost Leadership Award presented at IID 2008, Kyoto, Japan, and he was the recipient of the Honorary Doctorate Degree in Medicine from the University of Turku in 2009.

Dr. Uitto has held office in several scientific and professional societies, including President of the Society for Investigative Dermatology, President and Chairman of the Board of Trustees, the Dermatology Foundation, Member and Chair of the General Medicine A Study Section, Board of Scientific Counselors, National Cancer Institute, and National Advisory Council, National Institute for Arthritis and Musculoskeletal and Skin Diseases, all at National Institutes of Health. Dr Uitto is also section editor of the Journal of Investigative Dermatology and is on the editorial boards of numerous peer-reviewed journals.

Continuing Education Credit

Chicago Dermatological Society

"Chicago Dermatological Society Monthly Conference"

May 12, 2010 *Chicago, Illinois*

Participants must attend entire session to receive all types of credit. CFMC hosts an online evaluation system, certificate and outcomes measurement process. Following the conference, you must link to CFMC's online site (link below) to complete an evaluation form, in order to receive your continuing education statement of hours (certificate). Once the evaluation form is complete, you will automatically be sent a copy of your certificate via email.

Continuing Education evaluation and request for certificates will be accepted up to 60 days post activity date. The Colorado Foundation of Medical Care (CFMC) will keep a record of attendance on file for 6 years. CFMC contact information: 303-695-3300, ext. 3139.

Link address to evaluation form:

http://www.yourcesource.com/eval/?act=427!05122010

JOINT SPONSOR STATEMENT

This Continuing Educational activity is Joint-sponsored by the **Colorado Foundation for Medical Care, Office of Continuing Education** and the **Chicago Dermatological Society**.

GOAL/PURPOSE

To broaden the clinical knowledge of dermatologists with respect to diagnostic.

SESSION OBJECTIVES

Upon completion of sessions, participants will be able to apply new knowledge and skills in the area of physician learning.

After participating in this program, physicians should be able to:

1. Explain the clinical spectrum of epidermolysis bullosa.
2. Express the implications of mutation analysis for subclassification and prognostication with respect to the disease and the value of prenatal and preimplantation genetic testing for families at risk for recurrence.
3. Use the latest molecular therapies for treatment of epidermolysis bullosa.

CREDIT STATEMENTS

CME CREDIT

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through joint sponsorship of the Colorado Foundation for Medical Care, Office of Continuing Education (CFMC OCE) and Chicago Dermatological Society. CFMC is accredited by the ACCME to provide continuing medical education for physicians.

Colorado Foundation for Medical Care designates this educational activity for a maximum of **6.25** ***AMA PRA Category 1 Credits™*****.** Physicians should only claim credit commensurate with the extent of their participation in the activity.

CFMC has no financial responsibility for this activity.

DISCLOSURE STATEMENTS

The following faculty member has disclosed that they have the following financial relationships:

Jouni Uitto, MD, PhD Grant/Research Support: National Institutes of Health

All other members of the faculty and planning team have nothing to disclose nor do they have any vested interests or affiliations. **It is the policy of the Chicago Dermatological Society and Colorado Foundation for Medical Care (CFMC) that the faculty discloses real or apparent conflicts of interest relating to the topics of the educational activity, and also discloses discussions of off-label uses of drugs and devices before their presentation(s).**

Conference Supporters

We gratefully acknowledge the support from our sponsors and exhibitors for this conference.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 1**

Presented by: Andrea Kassim, MD and Brian Bonish, MD/PhD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A fifteen year-old Hispanic boy presented with a twelve-month history of lesions on his right upper arm, chest and back. The lesions first appeared on his right upper arm with lesions appearing on his right upper chest and back seven months later. No new lesions occurred in the five months prior to presentation. The lesions were asymptomatic and the patient had not tried any topical, systemic or intralesional treatments. He denied any preceding redness, rash, trauma, insect bites, injections or recent travel.

PAST MEDICAL HISTORY

Non-contributory

MEDICATIONS

None

ALLERGIES

No known drug allergies

FAMILY HISTORY

No family history of similar lesions

SOCIAL HISTORY

Lives with parents and younger brother

PHYSICAL EXAM

Right upper chest and right upper back to the midline as well as the right upper arm: multiple hyperpigmented 8-20 mm round and oval sharply demarcated, non-indurated, depressed plaques following the lines of Blaschko.

HISTOPATHOLOGY (4-mm punch biopsy of right upper back lesion):

Unremarkable epidermis with mild perivascular mononuclear infiltrate. A colloidal iron stain was obtained and showed slightly increased dermal mucin deposition when compared to normal. A Verhoeff-Van Gieson stain demonstrated normal quantity and quality of elastic fibers. A biopsy of non-lesional skin was obtained for comparison and was found to be unremarkable. These histologic findings suggest the diagnosis of Linear Atrophoderma of Moulin.

LABORATORY RESULTS

None

RADIOLOGY

None

DIAGNOSIS

Linear Atrophoderma of Moulin

TREATMENT AND COURSE

After obtaining baseline labs consisting of a G6PD level, CMP and CBC with differential and baseline ophthalmologic exam (all of which were within normal limits), the patient was started on hydroxychloroquine 200 mg daily without adverse events. At his most recent follow-up, which occurred four months after initiating hydroxychloroquine therapy, the patient's lesions appeared less depressed with diminished hyperpigmentation. The patient has not developed any new lesions in the past twelve months and remains asymptomatic.

DISCUSSION

The morphology of Linear Atrophoderma of Moulin (LAM) is similar to Idiopathic Atrophoderma of Pasini and Pierini. However, the distribution in LAM is unilateral and along the lines of Blaschko. Both conditions are benign and follow a chronic course. Approximately 25 cases of Linear Atrophoderma of Moulin have been reported in the English literature, with the first publication being made in 1992. The lesions of LAM usually occur on the trunk or limbs during the second decade of life. Lesions consist of asymptomatic, hyperpigmented to blue-violet, sharply demarcated and non-indurated depressed plaques with a characteristic abrupt "cliff drop" transition from uninvolved to involved skin. Of note, the lesions of LAM lack the classic lilac ring typically found in morphea and they neither display surrounding erythema nor develop subsequent sclerodermatous changes. By definition, LAM patients deny a history of preceding inflammation, local trauma, prior injections or new medications prior to the onset of their lesions.

The etiologies of both Idiopathic Atrophoderma of Pasini and Pierini and LAM are not fully understood, although links to *Borrelia burdorferi* as well as morphea have been proposed. Due to the distribution, LAM is likely due to genetic mosaicism caused by a post-zygotic mutation, although a specific gene has not been identified.

Histologically, LAM is characterized by hyperpigmentation of the basal layer of the epidermis with no epidermal or dermal pathologic findings other than an occasional dermal perivascular lymphocytic infiltrate. Atrophy is unequivocally absent, thereby rendering the term Linear Atrophoderma of Moulin a misnomer. The underlying pathology giving the clinical appearance of atrophy is likely a focal reduction in the subcuticular fat rather than changes in the connective tissue in the dermis.

Linear Atrophoderma of Moulin is a self-limited condition typified by a chronic course with some patients experiencing new lesions for several years before the condition resolves. Treatments with oral penicillin, tetracycline and topical steroids have been inconclusive, although treatment with hydroxychloroquine has anecdotally been found to be effective.

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CHICAGO DERMATOLOGICAL SOCIETY CASE # 2

Presented by: William Huang, MD, Jeffrey Altman, MD, and Michael Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS
This 20 year-old African American female presented to the dermatology clinic for evaluation of multiple skin tumors of her face. She had a history of multiple basal cell carcinomas and squamous cell carcinomas of the skin treated with Mohs surgery and topical imiquimod. She denied any history of a melanoma. The patient noted a known history of xeroderma pigmentosum (diagnosed at age 4), and had been previously followed by a dermatologist, an ophthalmologist, and a neurologist, but was lost to follow-up for the last several years. The patient admitted to a history of "ignoring the problem" and not avoiding ultraviolet light exposure.

PAST MEDICAL HISTORY
Xeroderma Pigmentosum

MEDICATIONS
None

ALLERGIES
NKDA

FAMILY HISTORY
No family history of xeroderma pigmentosum. Patient has one full sibling and seven paternal half siblings all in good health.

SOCIAL HISTORY
No tobacco, alcohol, or illicit drug use.
Patient is currently attending school to become a pharmacy technician.

PHYSICAL EXAM
Multiple cutaneous tumors on patient's forehead, nose, cheeks, and upper cutaneous lip.

Poikilodermatous changes and numerous solar lentigines noted on face, neck, upper chest, upper back, and extensor arms with sharp cut-off in areas not covered by shirt.

No appreciable lymphadenopathy or hepatosplenomegaly.

HISTOPATHOLOGY
Right forehead, shave: invasive squamous cell carcinoma with adjacent scar.
Mid-forehead, shave: basal cell carcinoma, pigmented.
Right upper lip, shave: basal cell carcinoma, nodular pattern.
Left upper lip, shave: invasive squamous cell carcinoma.
Left nasal bridge, shave: squamous cell carcinoma in-situ.

LABORATORY RESULTS
None

RADIOLOGY
None

DIAGNOSIS
Xeroderma Pigmentosum

TREATMENT AND COURSE
The patient was subsequently referred to dermatology surgery for evaluation and management of her cutaneous tumors. Several of the cutaneous tumors have been managed with surgical debulking followed by cryoablative therapy. She is currently receiving treatment with topical 5-fluorouracil. Other treatment modalities including systemic retinoids for chemoprevention were declined by the patient. Strict photoprotection is discussed at each visit.

The patient was referred to genetics and ophthalmology for further evaluation. She was also referred to Dr. Kenneth Kraemer at the National Institutes of Health who focuses his research on patients with XP.

DISCUSSION
Xeroderma Pigmentosum (XP) is an autosomal recessive condition first described in the literature by Hebra and Kaposi in 1874. With an estimated incidence of one in 1 million newborns in the United States (1 in 40,000 newborns in Japan), this condition is rare. Characterized by a significant increase in the risk for the development of all cutaneous malignancies, patients with XP present at an early age with severe photosensitivity, often developing lentigines by age 2, and their first non-melanoma skin cancer by age 8 if photoprotection is inadequate.

Biologically, patients with XP have genetic defects in the global genomoic nucleotide excision repair (NER) pathway. Traditionally XP defects are divided into one of seven complementation groups (XP-A to XP-G) based on the specific mutation in the NER pathway proteins. An XP-variant exists with a normal NER pathway but a mutated DNA polymerase. Of note, other disorders characterized by photosensitivity can also have mutated NER pathway proteins including some forms of Cockayne syndrome (XP-B, XP-D, XP-G) and Trichothiodystrophy (XP-B, XP-D).

In addition to an increased risk of cutaneous malignancies, patients with XP often have systemic problems. Approximately 40% of patients have ophthalmological abnormalities including photophobia, keratoconjunctivitis, corneal opacification, and corneal ulcerations. Loss of eyelashes, ectropion, symblepharon, SCC, and melanoma have also been described. An estimated 20-30% of patients with XP also have neurological problems including motor impairment, mental retardation, and progressive deafness thought to occur from defective DNA repair of nerve cells and subsequent neuronal death. These patients also have a 10- to 20-fold increased risk of internal malignancies involving almost all organ systems.

Treatment of patients with XP is multi-disciplinary with involvement of dermatologists, dermatologic surgeons, neurologists, geneticists, and ophthalmologists in addition to the primary care physician. Strict photoprotection with supplementation of calcium and Vitamin D is critical. Surgical management includes cryotherapy, electrodessication and curettage, and excision for cutaneous tumors. The use of oral retinoids has shown benefit in the treatment and chemoprevention of skin cancers. Other more recent advances in gene therapy are still experimental at this time.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 3**

Presented by: Hina Ahmad, MD, and Victoria Barbosa, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 40 year old White woman presented to the hospital for evaluation of menorrhagia and a chronic "rash." She had been worked up in the past for her menorrhagia and it was determined to be secondary to uterine fibroids. The patient described having generalized, erythematous skin lesions for the past 10 years. The lesions initially appeared on the dorsal aspects of her arms and legs, which she attributed to a sunburn. However, in the past 5 years the lesions started to generalize, with involvement of the trunk and face as well. She also noted bilateral conjunctival injection within this time period. She denied any associated pruritis or pain. She also denied any history of ataxia, dizziness, shortness of breath, palpitations, melena, hematochezia, recurrent nose bleeds, or arthralgias. The patient said she was diagnosed as having a "vasculitis" in the past but was unable to undergo treatment secondary to lack of insurance.

PAST MEDICAL HISTORY

Hypertension, depression, uterine fibroids.

MEDICATIONS

Hydrochlorothiazide
Ferrous sulfate
Lisinopril
Clonazepam
Loestrin
Verapamil
Escitalopram
Docusate
Multivitamin
Omega 3 fish oil

ALLERGIES

NKDA

FAMILY HISTORY

Negative for ataxia, recurrent epistaxis, hepatic diseases, pulmonary diseases, autoimmune diseases, photosensitivity disorders, or skin cancer.

SOCIAL HISTORY

Smokes 1 pack of cigarettes per day.

PHYSICAL EXAM

The patient had generalized, coalescing red and purple telangiectasias, with sparing of the oral mucosa, palms, and soles. The telangiectasias were most prominent on the lower extremities and the trunk. There was bilateral scleral injection.

HISTOPATHOLOGY

Punch biopsy X 2 (left thigh and left arm): both revealed markedly dilated blood vessels in the upper dermis, which was mildly sclerotic and contained mature adipose tissue. Mast cell tryptase stain revealed a few scattered mast cells.

LABORATORY RESULTS

CMP: albumin 3.0, all other results within normal limits.
CBC: HgB 11.0, all other results within normal limits.

Iron studies: Iron 21, iron saturation 5%, TIBC 410
PT/INR and PTT: within normal limits
CRP: 22.6
C3/C4: within normal limits
ANA screen: within normal limits
ANCA titer: within normal limits

RADIOLOGY
Transthoracic echocardiogram: Systolic function was normal with an ejection fraction of 55-65%. Grade 1 diastolic dysfunction was noted.
Transabdominal and transvaginal pelvic ultrasound: Nodular thickening of the endometrial canal with suggestion of a heterogeneous but mostly hyperechoic ovoid structure within the canal. This is suggestive of a submucosal polyp or fibroid.

DIAGNOSIS
Generalized essential telangiectasia.

TREATMENT AND COURSE
The patient has not been able to follow up with us and initiate treatment course due to lack of insurance.

DISCUSSION
Generalized essential telangiectasia (GET) is a rare, acquired skin disorder characterized by dilated capillaries and venules in a generalized anatomic distribution. The exact incidence of this disorder is unknown, but upon review of the literature, only a handful of cases have been reported. The etiology of GET is unknown and thus it is a diagnosis of exclusion. The diagnosis can only be made when other disorders like hereditary hemorrhagic telangiectasia, ataxia telangiectasia, and telangiectasia macularis eruptiva perstans have been ruled out. GET appears to be more common in women, with an onset of disease reported in the late 30's. The telangiectasias associated with this disorder typically start on the lower extremities and progress to involve the rest of the body, with conjunctival and mucosal involvement being rare. Typically the lesions are asymptomatic and not associated with any underlying disease; however, cases of gastrointestinal bleeding and Grave's disease have been reported in some GET patients.

Generalized essential telangiectasia is a progressive disease that lacks effective treatment options. There have been case reports of successful treatment with laser therapy using the Nd:Yag and pulsed dye lasers; however, due to the extensive nature of the disease, laser therapy is not a viable option for all patients. There was also a case report of a patient with coexistent autoimmune thyroiditis who was treated with acyclovir and had complete resolution of her telangiectasias within two months. Another patient was treated with tetracycline and had complete resolution of her lesions within three months. For patients who are refractory to therapy, concealing makeup is an alternative option.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 4**

Presented by: William Huang, MD, and Mark Hoffman, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

This 55 year-old white woman presented to the dermatology clinic with a fifteen year history of painful and pruritic genital lesions diagnosed as lichen sclerosus and treated by multiple primary care physicians and dermatologists. The patient's lichen sclerosus had been treated in the past with topical corticosteroids, topical lidocaine, topical testosterone, and topical nystatin cream, but the patient did not indicate any treatment as particularly helpful. In addition, acitretin had been prescribed during an inpatient admission but was not continued as an outpatient due to its cost.

PAST MEDICAL HISTORY

Chronic constipation
Hypertension
Gastritis
Hypothyroidism
Coronary artery disease
Lichen sclerosus

MEDICATIONS

Hydrochlorothiazide
Polyethylene glycol
Senna
Propoxyphene
Aspirin
Levothyroxine
Amlodipine
Ondansetron
Acetaminophen

ALLERGIES

Latex
Adhesives

SOCIAL HISTORY

Past smoker. Occasional alcohol use. Works as a toll booth operator.

PHYSICAL EXAM

Genital/Perineum/Gluteal/Perianal skin: large pink to red smooth patches with focal erosive changes and focal white sclerotic plaques.

Abdomen/Chest: numerous punctuate Crusted papules.

Bilateral thighs: pink to tan fairly discrete patches with scattered crusts.

HISTOPATHOLOGY

Right gluteal cleft, 4 mm punch biopsy: lichen sclerosus et atrophicus.

Abdomen, 4 mm punch biopsy: flattened epidermis with underlying increased ectatic blood vessel proliferation with surrounding papillary dermal fibrosis.

Left hip, 4 mm punch biopsy: perivascular and interstitial mild lymphohistiocytic infiltrate with thickened eosinophilic dermal collagen bundles consistent with early morphea.

LABORATORY RESULTS

Abnormal lab results:

Herpes simplex virus (HSV) 2 DNA PCR: detected on two separate occasions.
Colonoscopy revealed a normal ileum and otherwise normal colon. Colonic mucosa was normal throughout. Internal hemorrhoids noted on exam.

Normal lab results:

Comprehensive metabolic panel, serum immunofixation electrophoresis, C3 and C4, Hepatitis B and Hepatitis C, ANA, Rheumatoid factor, C-reactive protein, thyroid function testing

DIAGNOSIS

Lichen sclerosus

TREATMENT AND COURSE

Repeat biopsies and cultures were taken of intact skin and the margin of a focal erosive area which demonstrated findings consistent with lichen sclerosus. HSV-2 was detected and the patient has been treated with suppressive valacyclovir. Patch testing was performed and was negative. Therapies have included topical tacrolimus, topical clobetasol, topical antibiotics, topical anti-fungal agents, bleach baths, gabapentin, and a 3-month course of methotrexate (max dose = 12.5 mg per week), all providing incomplete clinical responses with continued intermittent flares.

DISCUSSION

Lichen sclerosus (lichen sclerosus et atrophicus) is a common and clinically distinct inflammatory disease primarily of the upper superficial dermis. Francois Henri Hallopeau is attributed with the first description of lichen sclerosus in 1887 with the typical histological features described by Ferdinand Jean Darier in 1892. Although the exact prevalence is unknown, lichen sclerosus occurs in all ages, races, and both sexes with the anogenital area being involved in the vast majority of cases.

Genital lichen sclerosus typically presents as well demarcated areas of erythema with areas of erosions that may progress to hypopigmented sclerotic lesions in a ‘figure of eight’ pattern encircling the genital and perianal region in women. Patients often complain of severe pruritus, soreness, dysuria, dyspareunia, and pain upon defecation causing significant morbidity. Extragenital lesions generally are asymptomatic except for dryness and mild pruritus, and typically present as polygonal papules, patches, or plaques; lesions may show follicular plugging. The typical histologic features of lichen sclerosus include hyperkeratosis, an atrophic epidermis, vacuolar degeneration of the dermal-epidermal junction, and homogenized dermal collagen in the superficial dermis.

Treatment of lichen sclerosus is often unsatisfactory with primary goals being relief of symptoms, surveillance and prevention of malignant transformation, and prevention of anatomical disfigurement. Medical management includes the use of potent topical corticosteroids as first line treatment. Other reported treatments including topical cyclosporine, topical retinoids, and topical testosterone are unproven in efficacy. Reports of systemic cyclosporine, systemic retinoids, stanazol, anti-malarials, anti-histamines, and various antibiotics used in the treatment of lichen sclerosus are mainly anecdoctal. Squamous cell carcinoma is the most common malignancy reported in patients with anogenital lichen sclerosus with some reports estimating the risk at about 5%. Phimosis and scarring of the vaginal introitus are common long term complication of lichen sclerosus.

Lichen sclerosus is a chronic inflammatory disease with an unknown etiology. Extracellular matrix protein 1 (ECM-1) was first isolated in 1997 and mapped to chromosome 1q21. In addition to its association with the autosomal recessive disorder lipoid proteinosis, autoantibodies to ECM-1 have been found in 80% of patients with lichen sclerosus. ECM-1 may play a role in keratinocyte maturation and normal collagen formation thus explaining the clinical features of lichen sclerosus. Recently an association with MHC class II antigen HLA-DQ7 has been observed.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 5**

Presented by: Lauren Campbell, MD, and Michael Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A one hundred and twenty day-old former 23 week premature infant girl with numerous complications of prematurity was seen in consultation. She was born prematurely by spontaneous vaginal delivery at an outside hospital to a 29 year-old healthy woman and transferred to Rush. Consultation by the dermatology service was requested for evaluation of depressed appearing areas of the skin noted over the past 2-3 months (age at that time approximately 6- 8 weeks old). Her nurse and other caregivers felt that the lesions may have appeared one to two weeks after EKG lead placement to the same areas. The lesions were initially erythematous and looked like "burns," but over time became more skin-colored. The lesions did not appear to be painful. No treatment had been attempted.

PAST MEDICAL HISTORY

Extreme fetal prematurity (birth weight 640 g)
Neonatal respiratory distress syndrome
Hyperglycemia
Hypotension
Patent ductus arteriosus
Hypernatremia
Hyperbilirubinemia of prematurity
Anemia of prematurity
Intraventricular hemorrhage, grade IV
Candida sepsis
S. aureus sepsis
Osteopenia
Opioid withdrawal
Bronchopulmonary dysplasia
Retinopathy of prematurity
Thrombocytopenia

MEDICATIONS

Clonidine
Chlorothiazide
Nystatin oral suspension
Pediatric multivitamins

ALLERGIES

No chronic skin disease in family members.

FAMILY HISTORY

No family history of similar skin disease.

SOCIAL HISTORY

Marijuana, tobacco, and opioid use during pregnancy by patient's mother.

PHYSICAL EXAM

Baby girl lying in infant warmer, awake, alert, and in no apparent distress. On her bilateral medial upper arms, bilateral lateral torso, and right abdomen there were multiple discrete atrophic soft hyperpigmented patches with atrophic overlying skin, ranging in size from 3

centimeters to greater than 5 centimeters. Underlying skeletal structures were easily palpated through the skin, belying the scant presence of dermal or subcutaneous skin tissue. These lesions consisted of approximately 8% of the total body surface area.

HISTOPATHOLOGY
Family declined skin biopsy.

LABORATORY RESULTS
The following laboratory results were obtained and were abnormal:
White blood cell count 22.2 thousand
Hemoglobin 11.7 gm/dL
Hematocrit 34.4 gm/dL

The following laboratory results were obtained and were normal:
Platelet count
Electrolytes
Liver function tests

DIAGNOSIS
Anetoderma of Extreme Prematurity

TREATMENT AND COURSE
The skin lesions remained stable during the remainder of the baby's hospitalization. On day of life 131, the patient was discharged home to the care of her parents and has done well.

DISCUSSION
Anetoderma appears as atrophic patches or plaques due to dermal thinning. Classically, most lesions of idiopathic anetoderma occur on the trunk. On histologic examination, all types of anetoderma show decreased amounts of elastic tissue with varying numbers of inflammatory cells.

Prizant and Suarez first reported lesions of anetoderma appearing in the first 2-3 months of life in nine extremely premature infants in 1996 (Prizant, et al, Archives of Dermatology, June 1996). All infants described in the case series were born at 24-29 weeks gestational age and developed many of the well-known complications of extreme prematurity. All babies had spent several months in the neonatal intensive care unit and all except one required ventilator support for bronchopulmonary dysplasia. Atrophic lesions were first noted at age 6 weeks to 10 months of age. Two patients continued to develop additional lesions over a three to five month period, while the remainder of the patients did not develop new lesions after the initial lesions were noted. The lesions healed with hypopigmentation or skin-colored atrophic patches. There were no preceding blisters. They ranged in size from millimeters to several centimeters in diameter. All lesions were present on the ventral surface, and all were on the trunk or proximal extremities. None of the identified sites corresponded to use of invasive monitoring or therapeutic devices such as chest tubes, catheters, or tracheostomy tubes. Four of the babies showed a clear association between the lesion site and placement of monitoring leads such as an electrocardiographic lead, a temperature probe, or adhesive securing an umbilical line. Histopathologic evaluation in five of the patients revealed normal skin; four out of five elastic stains performed on the remaining patients demonstrated a decrease or absence of elastic fibers. The authors postulated that a change in pressure underneath monitoring leads or adhesives in immature premature skin may have lead to a subclinical inflammatory reaction and subsequent damage to elastic tissue.

Anetoderma of prematurity is thought to be not uncommon and may be an underreported entity. Careful consideration should be given to the application of adhesives and monitoring devices to the skin of premature neonates (24 to 29 weeks), as permanent skin damage may potentially occur.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 6**

Presented by: Jason Litak, MD, and Victoria H Barbosa, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 64 year-old man with a chronic thirty-year history of idiopathic right lower extremity edema presented with lesions developing within the lymphedema for two weeks duration. The lymphedema began suddenly 30 years prior without any antecedent trauma, surgery, or infection. He had been hospitalized intermittently for "cellulitis" of the right leg in the past. The lymphedema and lesions were asymptomatic.

Review of systems was remarkable for an unintentional 20-pound weight loss over three months.

PAST MEDICAL HISTORY / MEDICATIONS

Hypercholesterolemia
Chronic lymphedema of right leg

MEDICATIONS

Simvastatin

PHYSICAL EXAM

General: thin white man in no acute distress.
Right lower extremity: massive non-pitting edema with superimposed scattered violaceous, smooth, shiny, indurated, non-tender nodules ranging in size from 1x1cm to 15x7cm.

HISTOPATHOLOGY

Right leg: Dense dermal infiltrate of large CD20+ B-lymphocytes with round to oval vesicular nuclei, prominent nucleoli and scant cytoplasm. The cells are negative for cytokeratin AE1/AE3, CK20, chromogranin and synaptophysin.

LABORATORY RESULTS

The following laboratory results were obtained and were normal:
Complete blood count with differential, electrolytes, creatinine, AST, ALT, bilirubin.

The following laboratory results were obtained and were abnormal:
Alkaline Phosphatase: 349 (30-125)
Beta2 Microglobulin: 8.4 (0-3)

IMAGING/PATHOLOGY

Bone marrow biopsy: Negative for lymphoma.

CT: Left axillary, internal jugular, mediastinal, and inguinal lymphadenopathy. Subcutaneous inflammation in the pelvis.

PET: Multiple hypermetabolic bulky lymph nodes in left axilla and bilateral supraclavicular regions consistent with malignancy. Edematous right lower extremity with mild diffuse soft tissue FDG uptake, could be inflammatory or neoplastic.

DIAGNOSIS
Primary cutaneous diffuse large B-cell lymphoma, leg type, associated with chronic lymphedema.

TREATMENT AND COURSE
The patient was started on CHOP-R (Cyclophosphamide, Hydroxydaunorubicin, Oncovin, Prednisone – Rituximab) chemotherapy. He is currently one week into therapy.

DISCUSSION
Primary cutaneous diffuse large B-cell lymphoma (PCLBCL) is an aggressive cutaneous B-cell lymphoma, accounting for approximately 6% of all cutaneous lymphomas. It is associated with a relatively poor prognosis compared with other primary cutaneous B-cell lymphomas, with a 5-year survival rate of 20-55%, and tends to spread to lymph nodes and extracutaneous sites. PCLBCLs on the leg have an inferior prognosis compared to PCLBCLs presenting at other sites. The presence of multiple skin lesions at diagnosis is a significant adverse risk factor.

Primary cutaneous diffuse large B-cell lymphoma, leg type (PCLBCL LT) predominantly affects elderly patients, particularly females. Patients present with generally rapidly growing red or bluish-red tumors on one or both lower legs. These lymphomas show diffuse infiltrates, which often extend into the subcutaneous tissue. These infiltrates generally show a monotonous population or confluent sheets of centroblasts and immunoblasts. Mitotic figures are frequently observed. The neoplastic B cells express monotypic surface and cytoplasmic immunoglobulins (sIg, cIg), B-cell–associated antigens CD20 and CD79a, and have strong bcl-2 expression.

These lymphomas should be treated as systemic diffuse large B-cell lymphomas with anthracycline-based chemotherapy. In patients presenting with a single small skin tumor, radiotherapy may sometimes be considered. Systemic administration of anti-CD20 antibody (rituximab) has proved effective in some patients.

The development of malignant tumors is a rare but well-known complication of chronic lymphedema. Angiosarcoma is the most frequent tumor, but other neoplasms that may arise in a lymphedematous extremity are Kaposi sarcoma, squamous cell carcinoma, malignant melanoma, and lymphoma. There have been 13 reported cases of primary cutaneous lymphoma associated with chronic lymphedema. Most of these tumors (11 out of 13) are diffuse large B-cell lymphomas, and five of them were located on the leg. Inadequate lymphatic drainage may disrupt lymphocyte and Langerhans cell trafficking, making the lymphedematous region immunologically vulnerable, and thus predisposing to infection and neoplasia.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 7**

Presented by: Jason Litak, MD, and Michael D Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

This is a 66 year-old woman who presented to the infectious disease clinic in March of 2009 with a three-month history of fevers, fatigue, cervical lymphadenopathy, lower extremity edema, and a pruritic rash. Prior to presentation the patient had been treated with antibiotics for fatigue and lymphadenopathy. She also had a five-day hospitalization in Nicaragua for a diffuse rash, spider bite, and renal failure. Upon returning to the United States she was being treated for toxoplasmosis without resolution of her symptoms.

Review of systems was remarkable for shortness of breath and mild right upper quadrant pain.

PAST MEDICAL HISTORY

Hypertension, Hypothyroidism

MEDICATIONS

Sulfadiazine
Daraprim
Leucovorin
Nifedipine
Synthroid
Benadryl prn

PHYSICAL EXAM

General: well-developed, well-nourished woman in no acute distress
Neck: positive anterior cervical lymphadenopathy with mild tenderness to palpation
Abdomen: positive splenomegaly
Skin: abdomen with diffuse red confluent urticarial plaques without scale, extremities with diffuse deep-red coalescent non-scaly papules and plaques in a quasi-reticular pattern

HISTOPATHOLOGY

3/09 (right arm): “Highly suggestive of vasculitis”- There is near total occlusion of some of the small blood vessels of the superficial dermis which may be secondary to endothelial proliferation/organizing thrombi. In addition, larger deep dermal blood vessels are surrounded by lymphoplasmacytic infiltrate which also extends into the vessel wall. The histologic changes are highly suggestive of lymphoplasmacytic vasculitis and likely etiologies include an underlying systemic disease including autoimmune/infectious diseases and malignancy. By immunohistochemistry, the majority of the lymphocytes express CD3 while there are only scattered CD20 positive lymphocytes.

6/09 (left thigh distal): “Highly suggestive of vasculitis”- Previous biopsy from 3/09 is reviewed. Although no larger vessels infiltrated by inflammatory cells are present in this biopsy, the histologic features essentially similar to those seen in the previous biopsy. The lymphocytic infiltrate is predominantly CD3 positive T-cells with rare CD20 positive B-cells.

1/10 (forearm): “Angioinvasive atypical lymphoid infiltrate”- The histologic changes appear to be similar to those in the previous biopsies and are consistent with T-cell lymphoma. Immunohistochemical studies show virtually all the lymphoid cells to be CD3 positive T cells with no B cells identified by the stain for CD20.

LABORATORY RESULTS

The following laboratory results were obtained and were normal:

WBC 6.57 (4-10), Neut 55% (46-78%), Eos 6% (0-6%), BUN 21 (8-21), AST 15 (3-44), Alk Phos 72 (30-125), Bilirubin 0.3 (0.2-1.3), Total Protein 7.5 (6-8.2), Albumin 2.8 (3.5-5) Free Thyroxine 0.7 (0.7-1.5), Urine Immnofix- no monoclonal proteins

The following laboratory results were obtained and were abnormal:
Hct 31.4 (37-47), Platelets 119 (150-399), Lymph 10% (18-52%), Mono 14% (3-10%), Plasma 6% (0%), Sodium 128 (137-147), Creatinine 2.2 (0.5-1.1), TSH 20 (0.35-4.9), LDH 351 (84-240), CRP 81.3 (0-8), ESR 50 (0-27), Urine Protein 30, Toxoplasma IgG positive

IMAGING/PATHOLOGY

3/09 (cervical lymph node biopsy): "Angioimmunoblastic T-cell lymphoma"-
The lymph node is diffusely effaced, but the sinuses are relatively preserved. Mixed population of lymphocytes ranging from small to large, some of which have bizarre nuclei. CD3 and CD4 stain the diffuse predominance of T cells. In situ hybridization for Epstein-Barr virus is negative.

3/09 (CT): Marked supraclavicular, axillary, mediastinal, hilar, abdominal, and pelvic lymphadenopathy.

1/10 (Bone Marrow Biopsy): Occasional large atypical lymphocytes, consistent with involvement by patient's known lymphoma.

DIAGNOSIS

Angioimmunoblastic T-cell Lymphoma (Angioimmunoblastic Lymphadenopathy with Dysproteinemia)

TREATMENT AND COURSE

The patient was treated with seven cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone) and one cycle of denileukin diftitox (Ontak). Her medical course became complicated by pulmonary embolism, thrombocytopenia, and gastrointestinal bleeding. Chemotherapy was halted and the patient is being treated supportively. During chemotherapy her skin lesions waxed and waned. The erythema has slowly resolved but residual red-brown to violaceous plaques remain on her forearms and abdomen.

DISCUSSION

Angioimmunoblastic lymphadenopathy with dysproteinemia (AILD) is a clinicopathologic syndrome characterized by fever, night sweats, weight loss, edema, generalized lymphadenopathy, hepatosplenomegaly, and a polyclonal hypergammaglobulinemia. Cutaneous manifestations are present in nearly half of cases as a morbilliform eruption that can resemble a viral xanthema, a toxic-mediated erythema, or a drug eruption.

Histological examination of skin biopsies of AILD shows varying patterns including a mild perivascular infiltrate composed of eosinophils and lymphocytes with no atypia, a sparse superficial perivascular infiltrate of atypical lymphocytes, a dense pleomorphic infiltrate composed of atypical lymphocytes suggestive of lymphoma, or vasculitis with no cellular atypia.

AILD is often considered to be a primary polyclonal proliferation, sometimes triggered by a drug or virus, which secondarily evolves into a monoclonal T-cell proliferation. Epstein-Barr virus has been detected in lymph nodes from many patients with AILD. Angioimmunoblastic T-cell lymphoma is mainly derived from CD2+ CD3+ CD4+ CD5+ CD7- mature T-helper cells.
In 1974, Frizzera et al. described angioimmunoblastic lymphadenopathy with dysproteinemia. In some classifications, similar atypical lymphoproliferative disorders were later grouped as

lymphogranulomatosis X or immunoblastic lymphadenopathy. The disorder is now classified as angioimmunoblastic T-cell lymphoma (AITL).

AITL is rare; but it is also one of the most common peripheral T-cell lymphomas, accounting for 18% of T-cell lymphomas and for 1.2% of all non-Hodgkin lymphomas. AITL is a systemic disease involving lymph nodes, spleen, and bone marrow. It is characterized by generalized lymphadenopathy, hepatosplenomegaly, fever, and skin rash; anemia, autoimmune features, and polyclonal hypergammaglobulinemia are frequently described. AITL typically follows an aggressive clinical course; despite treatment with polychemotherapy, the prognosis is poor, with a 5-year overall survival of 26-36% and a median survival of less than 3 years.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 8**

Presented by: Hina Ahmad, MD, and Lady Dy, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS
A 46 year old white man presented to the Emergency Department (ED) with a three week history of asymptomatic nodular lesions on the upper back. The lesions were incised in the ED with no drainage obtained. He presented to the Dermatology clinic the following week for further management. He reported recent travel to Belize where he recalled being bitten by mosquitoes.

PAST MEDICAL HISTORY
None

MEDICATIONS
None

ALLERGIES
NKDA

FAMILY HISTORY
Non-contributory

SOCIAL HISTORY
Non-contributory

PHYSICAL EXAM
On the left upper back there were two pink nodules, one of which had a central punctum with a white substance inside. Upon gentle touch, the white substance would retract.

HISTOPATHOLOGY
Left upper back punch biopsies (lateral and medial sites): Superficial and deep perivascular mixed cell infiltrate containing abundant eosinophils, consistent with arthropod bite infestation.

DIAGNOSIS
Furuncular myiasis.

TREATMENT AND COURSE
During examination, lateral pressure was applied to the lesion with the central punctum and a white larva was extruded. The same was done to the second lesion, however nothing was extracted. Six millimeter punch biopsies were obtained of each lesion. The patient was seen on follow up with no evidence recurrence.

DISCUSSION
Cutaneous myiasis is an infestation of the skin by fly larvae and can present as creeping, wound, or furuncular myiasis. Creeping myiasis clinically resembles cutaneous larva migrans and can be caused by *Hypoderma bovis* in those exposed to infected cattle, or by *Gasterophilus intestinalis* in those who work with horses. Wound myiasis on the other hand, occurs in pre-existing, suppurating wounds and is most commonly caused by *Cochliomyia hominivorax* (New World screwworm) in the Americas, and *Chrysomyia bezziana* (Old World screwworm) in Africa,

Australia, and Asia. Our patient presented with furuncular myiasis, which is caused by flies that are most prevalent in the tropics and the subtropics of Africa and the Americas. The most common species of flies to cause human infestation are *Dermatobia hominis* (human botfly), followed by *Cordylobia anthropophaga* (tumbu fly). *C. anthropophaga* is found in tropical Africa and causes infection when humans come into contact with egg-infested soil or clothing. Other species of flies that can cause furuncular myiasis, but are less common include *Cuterebra spp, Wohlfahrtia vigil* and *W. opaca. Cuterebra spp* are a frequent cause of US acquired furuncular myiasis and the *Wohlfahrtia spp* are found more commonly in young children.

In travelers returning to the United States, *D. hominis* is the most common agent of cutaneous furuncular myiasis. It is found from Mexico to Argentina, and also in Chile. The fly is active throughout the year due to temperate climates and therefore infection can occur at any time. The life cycle of *D. hominis* requires an intermediate player in order to cause infestation in the end host. The adult female lays her eggs directly onto day-flying mosquitoes and less commonly onto flies and ticks. Humans are the preferred hosts; however dogs, cattle, and monkeys may also be affected. When the mosquitoes feed, body heat generated from the host causes the eggs attached to the mosquito to hatch. The first instars, or the first stage larvae, then painlessly burrow into small skin perforations, follicular openings, or unbroken skin on the host. Clinically, a furuncle with a central pore develops which is essential for the larva's respiration. The larva matures to a second instar, then third instar within 5-10 weeks, after which it emerges and falls to the ground to pupate.

Treatment consists of removing the larvae. In cases of furuncular myiasis this is more difficult to do given the tapered shape and rows of spines on the larva. Therefore, forcible removal through the central punctum is not recommended. Instead surgical debridement is a better option, ensuring that the entire larva is removed. Other options include occlusion or suffocation approaches. Petroleum jelly, paraffin, beeswax, nail polish, or heavy oil is placed over the central punctum, forcing the larva to surface for air. Alternatively, lard or strips of bacon may also coax the larva to emerge. Other therapies include ethyl chloride sprays, liquid nitrogen, chloroform in vegetable oil, insecticides, or lidocaine injected forcibly into base of tissue cavity. In resistant cases, oral ivermectin may be used.

It is important to keep cutaneous myiasis on the differential diagnosis in all patients with non-healing furuncular lesions. It is vital to always obtain a travel history and course of the lesions. In patients that present with cutaneous myiasis, complications such as secondary bacterial infection may occur. Also, one must always remember to obtain a vaccination history as these patients should also receive a tetanus vaccination if they are not up to date, as myiasis may be a portal of entry for *Clostridium tetani.*

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 9**

Presented by: Andrea Kassim, MD, and Mark Hoffman, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

An eighty-five year-old Hispanic woman presented with a greater than ten year history of a lesion on the lower lip. She stated that the lesion was asymptomatic and did not bleed, but had grown faster over the past eight months. Over ten years ago, the patient had the lesion surgically removed in Mexico. The pathology report for the excised lesion was unavailable. Review of systems was non-contributory.

SOCIAL HISTORY

No history of smoking or excessive alcohol intake.

PHYSICAL EXAM

A 2.5 cm x 2.0 cm pink, firm nodule on the lower central mucosal lip. No lymphadenopathy or hepatosplenomegaly were noted.

HISTOPATHOLOGY

Histologic examination reveals a soft tissue specimen consisting of keratinized stratified squamous epithelium overlying the connective tissue containing an infiltrative salivary gland malignancy. Permeating connective tissue in areas are sheets of cells demonstrating varied appearances. Some cells demonstrate abundant basophilic cytoplasm consistent with intracytoplasmic mucin. Other cells demonstrate a more squamous appearance with cells demonstrating optically-clear cytoplasm being intermediate between the two cell types. Occasional small duct-like structures are seen that are filled with extracytoplasmic mucin. The periphery of the lesion is ill-defined with small nests and cords or cells infiltrating the collagen fibers. Although pleomorphism is not readily apparent, occasional mitotic figures are seen and a predominantly solid pattern is present. A Mucicarmine stain was performed that revealed both intra- and extracytoplasmic mucin.

DIAGNOSIS

Mucoepidermoid carcinoma, intermediate grade

TREATMENT AND COURSE

The patient was referred to ENT for evaluation and surgical removal. The lesion was successfully excised, although the post-operative course was complicated by herpes labialis.

DISCUSSION

Mucoepidermoid carcinoma (MEC), which was first described in 1924, is the most common salivary gland neoplasm, arising most commonly from both major and minor salivary glands. Minor salivary glands are found throughout the oral cavity, including the mucosal lips, but do not occur on the gingiva or anterior portion of the hard palate. Although the salivary glands are the most common location for MEC, MEC has rarely been shown to arise as a primary malignancy of the skin, respiratory and digestive tracts as well as the prostate, breast, thyroid, conjunctiva and lacrimal gland. In addition, there have been two cases reported arising within a nevus sebaceous of Jadassohn. MEC is a rare cancer overall, comprising less than 0.5% of all malignancies. An English literature search on MEC revealed only four reported cases of MEC arising on the lower lip.

MEC most commonly presents as a slow-growing skin-colored or pink nodule on the head and neck region of adults in the fourth to sixth decade of life. Intraoral lesions are often red to violaceous in color and may resemble mucoceles or vascular lesions. There is no gender predominance. Symptoms may include swelling in the tumor area, pain, bleeding, ulceration and parasthesias. Distant metastases as well as local recurrence have been reported several decades after the initial presentation of MEC. A review of the MEC literature revealed one case of a MEC that metastasized to the lungs forty-three years after the primary MEC was diagnosed.

Histologically, MECs are comprised of three cell populations: epidermoid (squamous) cells, goblet cells, which are also known as mucous cells, and intermediate cells. The MEC grading system is divided into low-, intermediate- and high grade, depending on histologic features such as invasion pattern, the presence of anaplasia, necrosis and atypical mitoses as well as the predominant cell type. Low grade is the most common and least aggressive subtype, while high grade is the least common and most aggressive subtype. Intermediate grade has histological features of both low- and high grade and follows a less predictable clinical course.

The etiology of MEC is not fully understood, as smoking and alcohol do not appear to play a role, as in other cancers of the head and neck. Furthermore, MEC can have a variable prognosis, which largely depends on the histologic grade of the tumor. Some studies demonstrate a 60.1% 10-year survival rate while other studies cite 5-year survival rates as low as 0%. MEC-related death was most closely associated with high grade MEC.

Depending on the histological grade and the presence of regional lymph node metastases, the treatment of choice for MEC is wide local excision with or without neck dissection and post-operative radiation. A review of the scientific literature, however, yielded four cases of cutaneous MEC managed by Mohs micrographic surgery without local recurrence or metastasis for a post-operative period of 8-36 months, depending on the study.

Although very rare, MEC must be taken into consideration in the differential diagnosis of an oral, lip or cutaneous mass. Once the diagnosis of MEC has been made,
life-long surveillance for local recurrence as well as distant metastasis is required.

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“Unknown”

CHICAGO DERMATOLOGICAL SOCIETY **CASE # 11**

Presented by: Lauren Campbell, MD, and Michael Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 19 month old baby girl presented to the dermatology clinic, brought by her grandmother and full-time nurse, complaining of a lower lip ulcer for the past 8 months. The caregivers stated the ulcer did not seem to cause the child pain. They occasionally noticed the girl biting her lower lip. Treatment had been attempted with topical hydrogen peroxide and filing of the teeth by the patient's dentist five months prior with no improvement noted.

PAST MEDICAL HISTORY

Neurologic deficit and seizure disorder secondary to "shaken baby syndrome." (age 5 months)
Gastrostomy tube placement.

MEDICATIONS

Multivitamin
Baclofen
Esomeprazole
Levetiracetam
Albuterol
Clonidine
Diazepam

ALLERGIES

No known drug allergies.

FAMILY HISTORY

Noncontributory.

SOCIAL HISTORY

Patient lives at home with her grandmother and mother, and is also tended to by a live-in nurse.

PHYSICAL EXAM

On the lower mucosal lip was a 24 mm linear jagged edged fibrotic ulcer with some resulting loss of regular lip architecture.

HISTOPATHOLOGY

Ulcer and granulation tissue with acute and chronic inflammation.

LABORATORY RESULTS

PCR for HSV 1 and 2 negative.
Tissue culture for bacteria, fungi, and mycobacteria negative.

DIAGNOSIS

Chronic ulceration from biting in the context of neurological disease, Riga-Fede disease.

TREATMENT AND COURSE

The patient and family were referred to physical and occupational therapy as well as pediatric dentistry and pediatric plastic surgery. Subsequently the patient was lost to follow-up for more than a year. Per her mother, the ulcer continued to extend and distort the lower lip architecture

until 9 months ago when it spontaneously healed, leaving a significant cosmetic defect. Surgical lip repair is planned in the near future with a pediatric plastic surgeon.

DISCUSSION

Riga-Fede Disease (RFD), also known as traumatic oral granuloma, is a rare reactive traumatic mucosal disease of young children characterized by persistent ulceration of the oral mucosa. Only five cases have been reported in the dermatological literature. Although most commonly seen on the ventral midline tongue, it can occur almost anywhere on the oral mucosal surface. The ulceration develops after repetitive trauma to the tongue or lips by the incisor teeth during forward or backward movement. The appearance of these lesions usually coincides with the eruption of the primary teeth in infancy, although it can be seen in newborns if natal teeth are present.

Neurological disease is the most commonly associated abnormality reported with RFD. Neurological disorders that have been associated with RFD include Riley-Day Syndrome (familial dysautonomia), Lesch-Nyhan Sydrome, and microcephaly. The ulceration has been in some cases the intital presenting sign of these neurologic disorders, therefore all patients with suspected Riga-Fede should be referred to a neurologist if not already under the care of one.

The differential diagnosis of chronic ulceration of the oral mucosa in a young child can be broad and may include herpes simplex, fungal and bacterial infections, primary syphilis, mycobacterial infections, ulcerative candidiasis, mucosal lymphoma, or sarcoma. Histopathological examination reveals ulceration with a mixed inflammatory infiltrate consisting of lymphocytes, mast cells, histiocytes, and often numerous eosinophils. Biopsy of the ulceration may be helpful in excluding infectious or neoplastic etiologies, but often a throrough history and physical examination will lead to the correct diagnosis of RFD. Making an early diagnosis is important to prevent severe scarring and disfigurement and feeding difficulties.

Treatment consists of early intervention and includes referral to appropriate pediatric specialists. Pediatric dentistry can evaluate for appropriate dental barrier devices or may even perform incisor extraction in more severe and recalcitrant cases. Occupational therapy interventions aim to change feeding and chewing practices to prevent further injury to the area.

These ulcers may be self-limited depending upon the severity of the associated neurological disease, but in severe cases may lead to nutritional deficiency or growth retardation due to feeding difficulties.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 12**

Presented by: Melinda E. Simon, MD, and Arthur R. Rhodes, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

This male baby presented with a bleeding right buttock lesion noted at birth. He was born at 39.1 weeks gestation via normal spontaneous vaginal delivery. His Apgars were 9, 9 at 1 and 5 minutes, respectively. The patient's birthweight was 4062 grams (large for gestational age), length 49.5cm (appropriate for gestational age), and head circumference 34.5cm (appropriate for gestational age). The mother, a 25 year old woman, had prenatal labs of O+/Ab-/RPR-/HIV-/Rubella non-immune/group B strep-/gonorrhea and Chlamydia-/HBsAg-. The mother denied complications during pregnancy and delivery except a slightly elevated glucose tolerance test (139, normal range less than 130).

In the first few days of life, patient had white blood cell count of 42,000 at an outside hospital and was placed on systemic antibiotics including vancomycin, ampicillin, gentamycin and cefotaxime. His blood cultures were negative, and the patient was afebrile.

PAST MEDICAL HISTORY

Large for gestational age, normoglycemia
Increased work of breathing, resolved with CPAP
Hyperbilirubinemia, resolved without intervention

MEDICATIONS

None

ALLERGIES

No known drug allergies

FAMILY HISTORY

No family history of similar lesions or vascular tumors

SOCIAL HISTORY

Non-contributory

PHYSICAL EXAM

The right buttock revealed a 6 cm x 5.5 cm firm, blue-purple rubbery, dermal and subcutaneous tumor with a central 4 cm x 4 cm red ulcer.

There were no other lesions noted on full mucocutaneous examination.

There was no hepatosplenomegaly or lymphadenopathy.

HISTOPATHOLOGY OF EXCISION

Intraoperative consultation (frozen section) showed lymphangioma: Diffuse proliferation of relatively bland cells with scattered lymphatic/vascular space proliferation. The histopathologist favored benign lymphangioma.

Final read showed infantile myofibroma: The neoplastic cells are positive for FLI-1 and SMA and negative for CD31, D2-40, and desmin, supporting the diagnosis.

LABORATORY RESULTS
Normal: blood cultures, wound cultures
Abnormal: WBC 24.83 (at discharge) with left shift

RADIOLOGY
Normal: Chest X-Ray, CT chest

DIAGNOSIS
Infantile Myofibroma

TREATMENT AND COURSE
The patient underwent surgical excision of the lesion without sequelae. Hematology and oncology was consulted and noted that the leukocytosis with the left shift was not concerning and unrelated to the myofibroma. Infectious disease felt that the leukocytosis was not infectious in nature. The CBC at discharge was trending toward normal. He is doing well.

DISCUSSION
Infantile myofibromatosis, a rare condition, represents the most common fibrous tumor of infancy. It was originally described by Williams and Schrum in 1951 and was termed congenital fibrosarcoma. Roughly 300 cases have been reported in the literature. Fifty percent of patients will present with congenital lesions and the majority of others within the first two years of life. Male patients tend to have the solitary form, and the visceral lesions are more common in females. Although infantile myofibromatosis is a benign lesion, visceral involvement is associated with mortality. The cause is unknown, but there have been reports of familial cases. Tumors that appear in adults are typically solitary and have a good prognosis.

There are three presentations that have been described: solitary, multicentric and generalized. Patients may present with one or multiple, rubbery, skin-colored to red-purple dermal or subcutaneous nodules that may be ulcerated. Typical locations include head and neck as well as trunk. However, there may be skeletal, renal, pulmonary, cardiac or gastrointestinal lesions. Clinical differential diagnosis includes hemangioma (as in our case), metastases from leukemia or neuroblastoma, sarcoma, neurofibroma, xanthogranuloma, mastocytoma.

Histopathologic features of infantile myofibromas reveal a biphasic tumor of myofibroblasts with plump, spindled cells arranged in fascicles in a collagenous stroma with smaller, round cells. There may also be a staghorn appearance of branching blood vessels. Mitotic figures may be present. Immumohistochemical stains are positive for actin and vimentin but negative for desmin. Histological differential diagnosis includes leiomyosarcoma, leiomyoma, fibrosarcoma, and nodular fasciitis. In order to distinguish our case from a lymphangioma, a fli-1 (a transcription factor that functions in cellular proliferation and tumorigenesis) was obtained and was positive, and CD31 and D2-40 (endothelial and lymphatic markers) were negative.

Many tumors will regress spontaneously in a matter of months. Therefore, treatment is not necessary unless the lesions are symptomatic. Treatment of patients with symptomatic solitary to few lesions includes excision or debulking. Those patients with only cutaneous or skeletal involvement have a good prognosis. Visceral involvement is associated with a high mortality within the first four months. If patients survive beyond this period, tumors usually begin to regress, and the prognosis improves. Other treatments utilized with variable success include chemotherapy such as vincristine, actinomycin D and cyclophosphamide, corticosteroids and alpha interferon.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 13**

Presented by: Hina Ahmad, MD, and Brian Bonish, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 66 year-old African American man presented with a ten year history of multiple hypopigmented and hyperpigmented papules on the scalp. He reported no symptoms associated with these lesions, and stated that they were stable over time. He did not report similar lesions elsewhere. He also denied any history of radiation, chemical, or arsenic exposure.

PAST MEDICAL HISTORY

Vitiligo, hypertension, hyperlipidemia, cerebral vascular accident.

MEDICATIONS

Hydrochlorothiazide
Atorvastatin

ALLERGIES

ACE inhibitors

FAMILY HISTORY

No history of autoimmune diseases or skin cancer.

SOCIAL HISTORY

Non-contributory.

PHYSICAL EXAM

The scalp had numerous skin colored to hypopigmented papules with telangiectasias and flecks of brown globular pigmentation. On the remainder of the skin examination, there were depigmented macules and patches on the chest.
No evidence of palmar/plantar pits, macrocephaly, or hypertelorism.

HISTOPATHOLOGY

Scalp, punch biopsy: Basal cell carcinoma, superficial pattern.

RADIOLOGY

X-ray of facial bones (11/09): Review of facial bones is within normal limits.
Non-contrast CT scan brain (11/06): Punctate calcifications in bilateral basal ganglia. Ill-defined periventricular white matter hypodensities which represent chronic microvascular ischemic changes. No evidence of falx cerebri calcification.
Non-contrast MRI brain (11/06): Multiple lacunar infarcts in the basal ganglia and thalami bilaterally.

DIAGNOSIS

Multiple basal cell carcinomas confined to the scalp in an African American man.

TREATMENT AND COURSE

The patient started treatment with imiquimod 5% cream, applied five times a week for 6 weeks to his largest lesion to assess response and side effects. At follow up, a partial response to

therapy was noted, with no adverse effects reported. He subsequently started treatment of the entire scalp with imiquimod applied nightly. After four months of therapy, many of his BCCs appeared resolved, but several remained. He was switched to fluorouracil 5% cream applied twice daily. This regimen was continued for one month and at follow up he was noted to have further resolution of his BCCs and therapy was stopped for one month to evaluate his progress. At his last visit, there were a few remaining BCCs and imiquimod was restarted.

DISCUSSION

Skin cancer in African Americans is much less common than in Caucasians, and basal cell carcinomas are the second most common skin cancer in this population. Retrospective studies estimate that only 1.8-4.6% of BCCs occur in African American patients in the general population. Given that darker skin type confers some UV protection, it is important to ascertain other possible causative risk factors. These additional risk factors include exposure to ionizing radiation and chemicals, such as mineral oil, coal tar, soot, nitrogen mustard, and arsenic. In addition, genetic disorders, such as Xeroderma Pigmentosum and Gorlin syndrome, also predispose patients to developing multiple BCCs. All patients on long term immunosuppression are at increased risk of developing non-melanoma skin cancers, including BCCs. It has been postulated that darkly pigmented individuals that develop BCC in non-sun exposed sites likely have a systemic defect in tumor suppression. This is supported by a study showing that African American patients that present with BCC have a higher chance of developing a second malignancy.

Gorlin syndrome, also known as Nevoid Basal Cell Carcinoma syndrome, is an autosomal dominant condition resulting in multiple BCCs. In patients of darker skin color presenting with multiple BCCs, it is important to rule out this genetic condition due to risks of internal malignancies and the contraindication of radiation therapy. Gorlin syndrome is caused by mutations in the PTCH gene located on chromosome 9q22.3-q31, and up to 50% of cases represent new mutations. Clinical features that occur most commonly in patients with Gorlin syndrome include odontogenic keratocysts, calcified falx cerebri, macrocephaly, frontal bossing, hypertelorism, and palmar/plantar pits. Other common findings include multiple BCCs, facial milia, cutaneous epidermoid cysts, high arched palate, bifid, splayed, or fused ribs, and a calcified diaphragm sellae. Less common findings include kyphoscoliosis, spina bifida occulta, cleft lip/palate, retinal hamartomas, medulloblastomas, meningiomas, calcified ovarian fibromas, cardiac fibromas, fusion of the vertebral bodies, and flame shaped lucencies of the phalanges. African Americans typically present with their first BCC at the mean age of 21. In younger patients diagnosed with Gorlin's syndrome, monitoring for medulloblastoma is also necessary. Other than multiples BCC, our patient lacked any other features of Gorlin syndrome.

Treatment of African American patients with BCCs is the same as in other populations, and the choice of medical or surgical care is tailored to the patient. For lesions that are more superficial, medical therapies may be used. These include immune modulating agents such as imiquimod cream, and local chemotherapeutic agents such as fluorouracil cream. The current therapeutic regimen for imiquimod is 5% cream applied five to seven times a week for a total of 6 weeks. The regimen for fluorouracil is 5% cream applied twice daily for three to six weeks. Medical modalities of treatment are preferred in patients with multiple BCCs or those with BCCs in anatomical locations where surgery may cause morbidity. Surgical therapy includes electrodessication and curettage for superficial lesions, versus excision or Mohs for more infiltrative lesions. Radiation therapy can be used in specific patients, but must be avoided in patients with tumor syndromes due to increased risk of developing further cancers secondary to the radiation induced mutations. A new novel therapy being tested that will be relevant for patients with extensive disease, including those with Gorlin syndrome, is GDC-0449. This is an inhibitor of the Hedgehog signaling pathway which is currently being evaluated in an ongoing

phase 1 clinical trial and a phase 2 trial for advanced BCCs. Preliminary results appear promising, especially in patients with multiple BCCs in which surgical treatment can cause excessive morbidity.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 14**

Presented by: Jason Litak, MD, and Arthur Rhodes, MD, MPH
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A healthy 58 year-old woman presented with a 6 month history of lesions on her upper and lower extremities. Lesions started on her legs and progressed to involve her thighs, dorsal hands, back, and abdomen. They were mildly painful, tender, and pruritic. There was associated swelling of her legs.

Review of systems was negative for Raynaud's phenomenon, fevers, chills, night sweats, weight changes, joint pain or swelling, difficulty swallowing, or neurologic, pulmonary, cardiovascular, gastrointestinal, genitourinary, or musculoskeletal symptoms.

PAST MEDICAL HISTORY

Two successful pregnancies, one miscarriage
Fibroadenoma of breast
Hysterectomy

MEDICATIONS

Aspirin prn
Flax seed
Fish oil

ALLERGIES

No known drug allergies

FAMILY HISTORY

Non-contributory

SOCIAL HISTORY

Patient is a medical clerk at Cook County Hospital. She has no history of tobacco, alcohol, or drug abuse.

PHYSICAL EXAM

Well nourished, well-appearing African black woman.
Anterior legs: induration of skin with overlying mottled pigmentation and 2+ pitting edema of ankles.
Thighs, posterior legs, back, and abdomen: scattered hyperpigmented coalescent, variably indurated macules.
Dorsal hands: 1+ non-pitting edema and ill- defined mottled hyperpigmentation.
Approximately 20 % body surface area involved with pigmentation and/or induration.
There was no lymphadenopathy or hepatosplenomegaly. Oral and ocular mucosae and nails were unremarkable.

HISTOPATHOLOGY:

Right pretibial area, samples obtained from both lesional and perilesional skin for comparison: sclerosing dermatitis with thickened dermal collagen bundles and a periadenexal lymphoplasmacytic infiltrate.

LABORATORY RESULTS

Within normal limits:

complete blood count with differential, serum electrolytes, serum creatinine, liver function tests, serum blood urea nitrogen, serum calcium, urinalysis, rheumatoid factor, anti-Scl-70, anti-Smith, anti-DNA, anti-RNP, SSA/SSB, C-reactive protein, C3/C4, hepatitis B and C, glucose, lipid profile, PT/PTT

Abnormal:

anti-nuclear antibody (ANA) by immunofluorescence: 1:40, speckled

RADIOLOGY

Chest x-ray: within normal limits
Esophogram: normal esophageal motility

DIAGNOSIS

Disabling pansclerotic morphea

TREATMENT

The patient was started on methotrexate and prednisone. She did not start taking methotrexate because of a fear of "side-effects." She did take prednisone 5mg per day for 30 days. She reports significant improvement in her skin lesions, but has been non-compliant with her medical appointments and has been lost to follow-up.

DISCUSSION

Morphea is characterized by sclerosis of the skin and underlying tissue. It is generally thought to be an autoimmune disorder involving fibroblast proliferation with excess synthesis and deposition of collagen. Disabling pansclerotic morphea (DPM) is rare form of widespread morphea that involves all layers of the skin, extending through the dermis and subcutaneous tissues to involve muscle, tendon, and bone. It is distinguished from scleroderma by its lack of systemic involvement. Unlike more benign forms of morphea, DPM has an aggressive, mutilating course that results in severe functional and physiologic impairment. Onset of DPM is usually before age 14. However, there have been reported cases of adult-onset disease that occurred suddenly with an explosive and disabling course. Autoantibody profiles are usually non-specific, as seen in this patient.

Treatment of DPM is a therapeutic dilemma with no single therapy proven to be curative. The course of disease may range from spontaneous remission in 3-5 years, to relentless progression despite aggressive therapy. There has been variable success reported with penicillamine, antimalarials, corticosteroids, methotrexate, cyclophosphamide, azathioprine, UVA-1 phototherapy, IVIG, and extracorporeal photophoresis.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 15**

Presented by: William Huang, MD, and Michael Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A white male infant was seen on the dermatology consult service in the NICU on the first day of life for evaluation of a congenital lesion on the right side of the face. The patient was born at 39 weeks gestation via cesarean section with no complications. APGAR scores were 8 at one minute and 9 at five minutes. Of note, the patient was prenatally diagnosed with a sternal malformation and ectopia cordis. Parents were both healthy and non-consanguineous.

PAST MEDICAL HISTORY

Stenal malformation (diagnosed prenatally).
Ectopia Cordis (diagnosed prenatally).

MEDICATIONS

None

ALLERGIES

NKDA

FAMILY HISTORY

No family history of infantile hemangiomas or other congenital vascular skin lesions.

SOCIAL HISTORY

Non-contributory

PHYSICAL EXAM

Right cheek/right temporal scalp/right ear/right lateral neck with a confluent erythematous slightly raised red vascular plaque extending to the patient's right lateral canthus. Prominence of superficial blood vessels noted.

No peri-ocular, peri-oral, or midline neck lesions noted. No median raphe cyst noted.

HISTOPATHOLOGY

None

LABORATORY RESULTS

None

RADIOLOGY

Prenatal ultrasound at 36 weeks gestation: large chest wall defect involving the mid to lower thorax. There is no bony structure or subcutaneous tissue covering the defect measuring approximately 3.5 cm in width by 2.7 cm in length. The heart appears midline and covered by a thin membrane most likely pericardium.

Ultrasound of the head: visualized skull and brain are normal without abnormality

MRI of the brain/orbits/optic nerve: brain is normal without evidence of pathological enhancement. MRI of the orbits/optic nerves are within normal limits.

Echocardiogram: small pericardial effusion without hemodynamic changes, bi-directional patent foramen ovale, and possible small patent ductus arteriosus.

DIAGNOSIS
PHACES Syndrome

TREATMENT AND COURSE
Patient subsequently underwent evaluation by pediatric cardiology, pediatric anesthesia, dermatology, genetics, and pediatric cardiothoracic surgery. Sternal cleft repair was performed by pediatric cardiothoracic surgery without complications at day two of life. Unfortunately this patient was unable to follow-up with RUSH University Medical Center after discharge due to insurance restrictions by his HMO.

DISCUSSION
Infantile hemangiomas are the most common benign tumors of infancy with an estimated incidence of 5 - 10% of all newborns. Occasionally these congenital benign endothelial cell neoplasms can be associated with other systemic malformations. Pascual-Cartoviejo was the first to report the association of cervicofacial hemangiomas and both vascular and non-vascular malformations in 1978. PHACES syndrome is a recently described clinical entity first coined by Frieden et al. in 1996. The acronym describes a constellation of features including Posterior fossa malformations, Hemangiomas, Arterial anomalies, Cardiac defects, Eye anomalies, and Sternal defects.

Over 300 cases of PHACES syndrome have been reported in the literature predominantly in the form of case reports and small case series. Recently, diagnostic criteria have been proposed to better classify patients as having PHACES syndrome versus other syndromes associated with infantile hemangiomas. For a diagnosis of PHACES syndrome, patients must have a facial hemangioma > 5 cm in diameter PLUS one major OR two minor criteria (see table).

Major Criteria	Minor Criteria
Anomaly of major cerebral arteries	Persistent embryonic cerebral artery other than the trigeminal artery
Posterior fossa anomaly of the brain	Enhancing extra-axial lesion with features consistent with intracranial hemangiomas
Aortic arch anomaly	Ventricular septal defect
Posterior segment abnormality of the eye	Double aortic arch
Sternal defects	Anterior segment abnormality of the eye
	Hypopituitarism
	Ectopic thyroid

The diagnosis of PHACES should be considered in any patient with a large segmental facial hemangioma. These patients should undergo imaging of the head, neck, and chest if possible to rule out other anomalies as well as assessment of the skin, eyes, heart, and neurologic status. Although PHACES is typically diagnosed at birth or shortly thereafter, prenatal diagnosis has been reported in the literature, including a patient who was prenatally diagnosed with a complete sternal cleft defect and subsequently developed cutaneous hemangiomas.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 16**

Presented by: Melinda E. Simon, MD, and Lady C. Dy, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 70 year old male presented with an asymptomatic left ear lesion for two months that had been growing in size. He also complained of fevers, chills, and painful swallowing for three weeks and was subsequently admitted to the hospital. Of note, the patient has a history of end stage renal disease, kidney transplantation (2006), and is on chronic immunosuppressive medications. Computed tomography upon admission revealed multiple nodules consistent with miliary tuberculosis (TB) pattern and a right upper lobe mass, but TB work up was negative. Five months previously, he had traveled to Puerto Rico.

PAST MEDICAL HISTORY

End stage renal disease status post transplant
Arteriovenous fistula
Hypertension
Diabetes
Diabetic retinopathy
Peripheral vascular disease
Venous stasis ulcers
Peripheral neuropathy
Coronary artery disease
History of osteomyelitis

MEDICATIONS

Furosemide
Lisinopril
Metoprolol
Hydralazine
Prednisone 5 mg daily
Tacrolimus 0.5 mg weekly
Novolin
Mycophenolic acid

ALLERGIES

NSAIDs

FAMILY HISTORY

Non-contributory

SOCIAL HISTORY

Retired baker

PHYSICAL EXAM

The left posterior pinna of the ear revealed a 10 mm x 10 mm pink centrally eroded plaque. The pink border was rolled but showed no arborizing telangiectasias. No drainage and no pustules noted.

HISTOPATHOLOGY

A biopsy of the left ear showed granulomatous inflammation with rare fungal forms consistent with histoplasmosis. Additionally, rare yeast forms morphologically consistent with histoplasma were seen on GMS stain. Fite stain was negative for microorganisms.

LABORATORY RESULTS

Positive urine histoplasma antigen.

Tissue culture showed rare growth of mold on one of three media after four weeks. Final identification was *Histoplasma capsulatum*.

Quantiferon gold: not detected.

RADIOLOGY

Computed tomography upon admission revealed multiple nodules consistent with miliary TB pattern and the RUL mass.

Bronchoscopy confirmed the diagnosis of histoplamosis.

Esophagogastroduodenoscopy showed nodular gastritis and a mass on the vocal cords consistent with disseminated histoplasmosis.

DIAGNOSIS

Disseminated cutaneous histoplasmosis

TREATMENT AND COURSE

The patient was treated for disseminated histoplasmosis with intravenous amphotericin for fourteen days. He was then transitioned to oral itraconazole 400 mg a day and is currently completing 12-18 months of treatment.

DISCUSSION

Histoplasmosis, also known as Darling's disease, Ohio valley disease, cave disease and reticuloendotheliosis, is caused by the dimorphic fungus *Histoplasma capsulatum var. capsulatum*. It exists in mycelial form and proliferates in pathogenic yeast form. The fungus is typically found in the warm climates of the central and southeastern United States, Latin America and the Caribbean. Animal reservoirs for this fungus include bats, birds, and fowl.

H. capsulatum is a true pathogen in that it more commonly infects immunosuppressed hosts but may infect immunocompetent hosts. There are three main forms of histoplasmosis: pulmonary histoplasmosis from inhalation of fungal spores, disseminated histoplasmosis most commonly to spleen, lymph nodes, bone marrow, and liver, and finally primary cutaneous histoplasmosis. Our patient had the disseminated form likely from a pulmonary source.

In the immunocompetent patient, there may be oral lesions or cutaneous vegetative nodular lesions. An immunosuppressed patient may have mucocutaneous erosions or ulcers as well crusting or scaling papulonodules. Friedman reported a case of verrucous plaques on the face and trunk of an HIV patient and noted the importance of awareness of this disease in nonendemic areas in immunocompromised patients. Differential diagnosis includes other dimorphic fungi such as paracoccidioidomycosis and also cutaneous tuberculosis. In a variant found in Africa, caused by *H. capsulatum var. duboisii*, the patients present with bone lesions as well as mucocutaneous and subcutaneous lesions.

Pathology shows histocytes and giant cells with intracellular yeast forms with a halo or rim of clearing (parasitized macrophages). These fungal forms stain with PAS and Gomori methenamine silver.

Treatment for asyptomatic primary cutaneous histoplasmosis may not be needed as it can be self-limited. For symptomatic or systemic disease, systemic antifungals are indicated. Current recommendations include intravenous amphotericin B up to 1 mg/kg/day with transition to itraconazole 200-400 mg/day. HIV patients with histoplasmosis require lifelong maintenance therapy.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 17**

Presented by: Lauren Campbell, MD, and Arthur Rhodes, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

An 11 year-old girl presented with a one year history of "bumps on her hair" that have been stable since she noticed them. She denied scalp pruritus or pain. No one in the home or at school has similar lesions or scalp problems. She was seen by her pediatrician twice for this problem and was diagnosed with head lice. She washes her hair daily with shampoo and conditioner and applies no "leave-in" products. She does not blow-dry or heat-style her hair. The patient has attempted treatment with olive oil to the scalp and repeated washings with over-the-counter lice shampoos without resolution. She denies fever, chills, or other systemic symptoms, and feels generally well.

PAST MEDICAL HISTORY

No significant past medical or surgical history.

MEDICATIONS

None

ALLERGIES

No known drug allergies.

FAMILY HISTORY

No family history of scalp disorders or infections.

SOCIAL HISTORY

The patient lives with her mother, father, and younger sister. She has lived in Chicago since birth. Eighteen months ago, she lived in Florida with relatives for one year. She has not left the United States in more than 5 years.

PHYSICAL EXAM

Healthy-appearing girl. On the occipital scalp hairs were too numerous to count white to gray node-like adherent concretions, non-movable, less than 1 mm each, along the entire length of the hair shafts. The concretions can be removed with digital or instrumental manipulation of the shaft. Other scalp hairs do not appear to be affected. There is no lymphadenopathy of the head or neck. The scalp appears normal with no scale, erythema, or pustules. On 20 x microscopic magnification of a hair shaft, there were granular concretions attached firmly to the outside of the hair cuticle.

HISTOPATHOLOGY

Multiple hair fragments with peripilar yellow nodules.

LABORATORY RESULTS

Fungal culture: Growth of *Trichosporon mucoides* on three of three media.
Fungal smear: Calcafluor white stain shows rare hyphal elements.
Bacterial culture: Negative for growth.

DIAGNOSIS

White piedra infection of the scalp.

TREATMENT AND COURSE

The patient was seen in follow-up three weeks after initial consultation. Therapy was initiated with ketoconazole shampoo 2% daily for three months, and oral fluconazole 150 mg daily for three weeks. The patient was scheduled for re-evaluation three months later, but subsequently has been lost to follow-up despite numerous attempts to contact the family.

DISCUSSION

Piedra ("stone" in Spanish) is an uncommon fungal infection of the hair shaft. The two best-known subclassifications are black piedra, caused by *Piedraia hortae,* and white piedra (WP). Historically, WP has been thought to be caused by *Trichosporon beigelii*, an asexual non-dermatophyte fungus. Recently, however, the Trichosporon genus, a subclass of the Basidiomycetes, has been shown to include a number of subspecies, including *T. cutaneum* (formerly *T. beigeleii*), *T. asahii*, *T. mucoides*, *T. ovoides*, *T. asteroides*, and *T. inkin*. Diseases caused by this genus include mucosal infections, superficial mycoses, including hair shaft infections, and systemic mycoses, usually in immune-suppressed individuals. Hair shaft infections can affect numerous areas including the scalp, beard, mustache, genitalia, axillae, eyelashes and eyebrows. The differential diagnosis of hair shaft concretions includes nits, concretions from build-up of hair products, and piedra infection.

White piedra is found worldwide, with most case reported in tropical and temperate climates. In the US, it is mainly seen in the southern states. The majority of cases occur in children and young adults, and there appears to be a female predominance. Most reported cases in the North American literature have been genital WP. Few cases of scalp white piedra have been reported in the US. In recent years, there has been emergence of WP in the US suggesting possible underreporting of this entity.

Treatment of WP can be difficult. The American Academy of Dermatology guidelines recommend complete removal of infected scalp hair. This may be difficult for patients to accept. Multiple topical and oral agents have been tried with varying success, including econazole nitrate cream 1%, 5% sulfur ointment, imidazoles, ciclopirox, amphotericin B lotion and others. Typically, complete clearance requires shaving of the affected hairs in addition to topical antifungal formulations. One of the challenges in treating WP is a high relapse rate. Itraconazole and fluconazole, given their ability to bind keratin and persist in the hair shaft beyond initial treatment period, have shown promise in eradicating and preventing relapse of infection. Kiken and Silverberg (JAAD Dec 2006) recommend a topical azole shampoo for three months to eliminate the concretions, and a short course (three weeks to one month) of oral itraconazole or fluconazole for elimination of carriage/infection. Close follow-up is recommended to examine for re-infection.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 18**

Presented by: Jason Litak, MD, Michael Tharp, MD, and Warren Piette, MD,
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

A 72 year-old man presented to dermatology clinic with a history of asymptomatic lesions on his face for one year. The lesions were biopsied at an outside institution eleven months prior to presentation. The patient had been treated with betamethasone cream and had been lost to follow-up. Within the month prior to presentation the lesions were rapidly enlarging. Review of systems was negative for fevers, chills, night sweats, or weight loss.

PAST MEDICAL HISTORY / MEDICATIONS

None

SOCIAL HISTORY

Alcohol use (6-24 beers a day for many years)

PHYSICAL EXAM

Face, ears, scalp, neck: many large, red, indurated and infiltrative plaques and tumors.
Positive cervical lymphadenopathy.

HISTOPATHOLOGY

4/08 (L preauricular): Dense diffuse proliferation of small lymphocytes with scattered large forms with convoluted nuclei. Focal epidermotropism. CD4+, CD30-. Consistent with cutaneous T-cell lymphoma plaque stage.

3/09 (L temple, R preauricular): Atypical infiltrate consisting of large atypical lymphocytes extending into the subcutaneous fat. CD30+. Given the history of CTCL, histologic findings are compatible with anaplastic large cell lymphoma transformation.

10/09 (L cheek): Primary cutaneous anaplastic large T-cell lymphoma. CD3+, CD4+, CD30+, ALK1-.

LABORATORY RESULTS

The following laboratory results were obtained and were normal: complete blood count with differential, liver function tests, creatinine, chest x-ray, CD4/CD8 ratio in blood.

IMAGING

CT chest, abdomen, pelvis: Extensive axillary, iliac and inguinal lymphadenopathy
CT neck: Extensive cervical lymphadenopathy. Mass near mandibular symphysis. Soft tissue infiltration of parotid, ears, scalp, nasal bone. Large destructive lesion involving clivus and both petrous apices. Peribronchovascular interstitial thickening of left upper lobe.

DIAGNOSIS

Mycosis fungoides with large cell transformation

TREATMENT AND COURSE

The patient was initially referred to radiation oncology for consultation regarding treatment. The patient was poorly compliant with his medical appointments and referrals. He was referred to medical oncology, and four months after presentation was treated with two cycles of ESHAP

(etoposide, methylprednisolone, high-dose cytarabine and cisplatin) with good response. He was again noncompliant with his follow-up appointments and re-presented three months later with a six-day history of rapidly progressive disfiguring lesions over his face and ears. He received another round of ESHAP with a dramatic response. Patient was then lost to follow-up and was later reported as deceased.

DISCUSSION

Morphologic transformation occurs in a variety of hematopoetic and lymphoid neoplasms and is often associated with a more aggressive clinical course. Early stage mycosis fungoides (MF) is generally associated with an indolent clinical course. However, a transformation with the onset of large cells within the tumor infiltrate may occur, signifying a worse prognosis. Transformed MF (T-MF) is a well-defined histopathological condition distinguished by the presence of large cells (four times or more the size of a small lymphocyte) exceeding 25% of the cell population of the infiltrate or forming microscopic nodules. The diagnosis of T-MF is almost always made on cutaneous biopsies because a clinical progression (tumor or infiltrated patches) occurs. The incidence of such a transformation has been reported in 8-55% of cases of MF.

This transformation is often associated with an aggressive clinical course and less favorable outcome. However, some patients may meet histopathologic criteria of large cell transformation, but may have limited tumor nodules with a more indolent clinical behavior. Thus the management of these patients labeled with large cell transformation must be individualized according to the clinical behavior. Patients with stage IA, IB, or IIA MF with large cell transformation are treated according to regimens used for stage IIB, limited tumor disease, with localized radiation to the tumors followed by other skin-directed therapies for concurrent patch/plaque disease. Alternatively, they can be given systemic therapy similar to that given for extensive stage IIB disease.

Median survival from initial diagnosis of MF is 37 months for patients with T-MF, as opposed to 163 months for patients with untransformed MF. However, the impact of cytologic transformation on tumor staging is not clear. The impact on survival of an earlier histological diagnosis of transformation should be confirmed by prospective studies of MF patients, with regular systemic biopsies in order to determine if histological diagnosis of T-MF before clinical progression may be relevant for therapeutic strategies.

The differential diagnosis of T-MF is difficult. Because of the worsened prognosis of T-MF, this entity should be differentiated from granulomatous/histiocyte-rich MF using CD68, and from MF associated with CD30+ lymphoproliferative disorders in which two clinically distinct types of lesions may co-exist.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 19**

Presented by: Melinda E. Simon, MD, and Arthur R. Rhodes, MD
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HISTORY OF PRESENT ILLNESS

This seven week old male presented to our dermatology clinic with a five week history of increasing pink bumps on his axillae, groin, scalp, and trunk as well as white lesions on his mucosal gingiva. His pediatrician diagnosed him with oral thrush and he was treated with nystatin suspension twice daily for two weeks with no improvement. The baby was otherwise healthy; born full term by a normal spontaneous vaginal delivery. There were no complications during the mother's pregnancy or child's delivery.

PAST MEDICAL HISTORY

None

MEDICATIONS

Nystatin suspension

ALLERGIES

No known drug allergies

FAMILY HISTORY

Father-diabetes
No similar lesions in family members.

SOCIAL HISTORY

Baby lives with mother and father.

PHYSICAL EXAM

The scalp, bilateral groin, axillae, and trunk revealed two dozen 1-2 mm pink-yellow, firm papules. The oral mucosa showed dime sized, white, firmly attached plaques on the upper and lower gingiva. There was no fever, hepatosplenomegaly or lymphadenopathy.

HISTOPATHOLOGY

Torso: Langerhans cell histiocytosis, positive for CD1a and S-100 immunohistochemical stains

LABORATORY RESULTS

Not available

RADIOLOGY

Not available

DIAGNOSIS

Langerhans cell histiocytosis

TREATMENT AND COURSE

The parents were counseled about the diagnosis of Langerhans cell histiocytosis. The patient's pediatrician arranged for hematology and oncology evaluation for other organ involvement and for treatment. After repeated attempts to contact the family, the patient was lost to follow up.

DISCUSSION

Langerhans cell histiocytosis, LCH, is a rare disease of Langerhans cells that represents clonal proliferation. Langerhans cells, named after Paul Langerhans, are CD1a and S100 positive epidermal dendritic cells, containing Birbeck granules. The pathogenesis of this rare disease is unknown. This clonal neoplastic disorder may have a genetic basis.

LCH typically develops in children 1-3 years of age and is more common in males. In adults, there is a female predominance. The incidence is an estimated 5 per million children.

There is a wide spectrum of disease presentations, with dramatically different prognoses. LCH is historically categorized into four syndromes: Letter-Siwe disease, Hand-Schuller-Christian disease, Eosinophilic granuloma, and Congenital self-healing reticulohistiocytosis (Hashimoto-Pritzker disease). An additional classification scheme includes three groups: unifocal, multifocal unisystem, and multifocal multisystem. Letter-Siwe represents the acute, multisystem disease that commonly presents before 1 year of age with scalp, flexural, and perineal tender, coalescing, pink papules as well as petechiae and purpura. Other organs that may become infiltrated include bone (commonly cranial), lymph nodes, and lung. Anemia and thrombocytopenia are associated with a poor prognosis. Hand-Schuller-Christian disease, a chronic condition, includes the triad of exophthalmos (rare), bone lesions (seen in 80% of patients), and diabetes insipidus (found in 30% of patients). Findings typically begin between the ages of 2-6 years. Mucous membrane lesions occur in 30% of patients. Infiltration of the Langerhans cells into the gingiva may lead to premature loss of teeth. Eosinophilic granuloma is the localized form of LCH more commonly seen in older male children. Granulomatous bone lesions are the most common lesions found and are usually present in the cranium. Congenital self-healing reticulohistiocytosis is usually limited to skin and, as the name implies, self-healing. Generalized red-brown papules erupt within the first few days of life, crust over, and resolve after a period of several weeks.

Stein et al reported that the most common initial skin manifestation in newborns were crusted, red vesiculopustules. LCH in adults typically manifests in bone, lung, and skin. These patients may also have diabetes insipidus. The disease can be progressive.

Histopathologic features reveal reniform shaped Langerhans cells intermixed with eosinophils, neutrophils, lymphocytes, mast cells, and plasma cells. Chronic lesions may reveal xanthomatous or granulomatous change. The Langerhans cells stain with CD1a and S100 immunostaining. Electron microscopy shows racquet-shaped cytoplasmic structures known as Birbeck granules.

Clinical differential diagnosis may include seborrheic dermatitis, candidiasis, non-Langerhans cell histiocytosis, urticaria pigmentosa, as well as Darier's disease. Additional considerations include varicella and sarcoidosis.

Patients with LCH may be at an increased risk of leukemia (ALL), solid tumors, and retinoblastoma. It is unclear if these malignancies are primary or secondary to the treatment of LCH. Conversely, there may be an increased incidence of LCH in patients with leukemia and solid tumors. Prognosis depends on disease presentation. In children with multisystem disease, mortality rate may be as high as 54%. The prognosis is excellent in the self-healing form.

These patients should be evaluated for skeletal, CNS, hematological, pulmonary, renal, and hepatic involvement. Treatment is dependent on the number of systems involved. In the case of cutaneous limited disease that is symptomatic, topical corticosteroids, topical

mechlorethamine and topical antibiotics have shown some efficacy. PUVA and thalidomide may also be helpful. Multisystem disease may require prednisolone with chemotherapy such as vinblastine, 6-mercaptopurine, methotrexate or etoposide.

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CHICAGO DERMATOLOGICAL SOCIETY **CASE # 20**

Presented by: William Huang, MD, and Michael Tharp, MD
Department of Dermatology, RUSH University Medical Center

HISTORY OF PRESENT ILLNESS

This 42 year old African-American man with past medical history significant for acute myelogenous leukemia (AML) undergoing chemotherapy was seen on the dermatology consult service for skin lesions present for five days. The patient was diagnosed with AML, M1 type, in April of 2008, and received induction chemotherapy with cytarabine (ARA-C) and daunorubicin followed by three subsequent consolidations with high dose cytarabine.

His most recent bone marrow biopsy showed relapse of his AML, and the patient was admitted for chemotherapy with cytarabine and mitoxanthrone. Follow-up bone marrow biopsy at day 14, status post chemotherapy, showed refractory disease, and the patient was subsequently treated with high dose cytarabine and etoposide. A subsequent bone marrow biopsy showed recurrent AML after the patient's most recent dose of chemotherapy.

Throughout his hospital stay, the patient developed fevers attributed to Vancomycin Resistant Enterococcus (VRE) bacteremia, Pneumocystis Carinii Pneumonia (PCP), and ultimately to Fusarium septicemia. Dermatology was consulted for asymptomatic skin lesions that had been present for five days over the patient's face, abdomen, arms, and legs.

PAST MEDICAL HISTORY

Acute Myelogenous Leukemia (AML)
Asthma
Schizoaffective Disorder
Former heroin user

MEDICATIONS

Daptomycin
Voriconazole
Albuterol
Enoxaparin
Trimethoprim-sulfamethoxazole
Amphotericin B liposomal
Acyclovir

ALLERGIES

No known drug allergies

FAMILY HISTORY

Non-contributory

SOCIAL HISTORY

Denies tobacco or alcohol use. Former heroin user.

PHYSICAL EXAM

General: ill-appearing thin gentleman, breathing comfortably on supplemental oxygen via nasal cannula.

Face/Abdomen/Arms/Legs: scattered skin-colored to medium brown firm papules and nodules. Some lesions were yellowish-tan with an umbilicated appearance.

HISTOPATHOLOGY
Right forearm, 4 mm punch biopsy: fungal hyphal forms are noted within a thrombus occluding the lumen of the vessel and extending into the surrounding dermis and subcutaneous fat. PAS stain highlights the fungal hyphal forms.

LABORATORY RESULTS
Bone marrow biopsy: persistent AML. Approximately 70% of the marrow space is occupied by large blasts. There is no normal hematopoiesis.

Blood culture: growth of septate hyphae identified as Fusarium species.

DIAGNOSIS
Disseminted Fusarium Infection

TREATMENT AND COURSE
The patient was started on broad spectrum anti-microbial agents to treat his PCP pneumonia, VRE bacteremia, and Fusarium septicemia. Patient continued to decline in the hospital and the decision to switch the patient to comfort care was made. The patient expired four days later. Subsequent autopsy revealed a disseminated fungal infection involving his epiglottis, larynx, trachea, lungs, liver, spleen, esophagus, stomach, and skin, as well as his PCP pneumonia, as the primary cause of death.

DISCUSSION
Immunocompromised patients are susceptible to both common and uncommon infections from viruses, bacteria, and fungi. Fungal infections are increasingly a common form of infections in patients with leukemias and neutropenias. The frequency of nosocomial fungal infections reported by the National Nosocomial Infection Surveillance System increased 57% for pneumonias, 122% for urinary tract infections, 200% for surgical wounds, and 400% for the bloodstream between 1980 and 1990.

Fusarium species are found commonly in soil, plant debris, other organic substrates, and biofilms of water. More than 50 species of Fusarium have been characterized in the literature causing various diseases in cereal grains and occasionally animals. Recently Fusarium species are being recognized as an emerging pathogen associated with significant morbidity and mortality among immunocompromised hosts, especially those with severe and prolonged neutropenia. The most common species causing disease in humans include *Fusarium solani, Fusarium oxysporum, Fusarium verticillioidis*, and *Fusarium moniliforme*.

Fusarium species cause a broad spectrum of infections in humans including superficial, locally invasive, and disseminated infections depending largely on the immune status of the host. Among immunocompetent hosts, keratitis and onychomycosis are the most commonly reported infections, often related to skin breakdown (burns or wounds) or foreign body material (contact lenses). Immunocompromised hosts are susceptible to more invasive and disseminated infections, typically gaining access to the patient via the skin or airway. Patients may present with erythematous macules, papules, or nodules with or without central necrosis and umbilication, purpuric lesions, or flaccid pustules.

In patients with Fusarium fungemia, the skin (70%), lungs (39%), and sinuses (18%) represent the most common areas of involvement. The most frequent presentation of disseminated disease is neutropenic fevers in a patient with acute leukemia, characteristic skin lesions, and a positive blood culture. The prognosis among patients with disseminated Fusarium is poor with 30 and 90 day survival rates at 50% and 21% respectively. Current recommendations on

the treatment of disseminated Fusarium infections include either amphotericin B or voriconazole based on susceptibility testing if available. Data is limited for combination anti-fungal therapy, and adjuvant therapy with colony stimulating factors has not been established.

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