INFECTION (BACTERIAL)

P1800

Anthrax through the ages: A dermatological perspective

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Anthrax, or Bacillus anthracis, is a spore-forming gram positive bacteria that has been blamed for several devastating plagues that killed both humans and livestock. In the United States, incidence of naturally-acquired Anthrax is very rare but the potential for a severe outbreak has become a great concern as of late. Although many treatment options remain, early detection and prevention of transmission is of more importance. In addition, anthrax has been used as a weapon of terrorism and warfare since 1500 B.C. In the first World War, anthrax was used as a biological weapon by some nations and in more recent times, America was faced with its own bioterrorist attacks. With the evolving tension throughout the world, the characterization and identification of anthrax as a biological weapon has taken on a new level of importance. This article is a historical account of the emergence of Anthrax and its use in the past centuries. This review emphasizes the cutaneous manifestations of Anthrax and the important role of dermatologists in the fight against bioterrorism and naturally occurring anthrax outbreaks. Treatment options and preventative measures are also reviewed.

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P1801

Borderline lepromatous leprosy presenting with a rheumatoid-like polyarthropathy

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We report the case of a 70-year-old Chinese male, who developed multiple erythematous plaque lesions on the face and limbs over a period of 6 weeks. He was diagnosed with rheumatoid arthritis 2 years previously when he presented with a symmetrical polyarthropathy affecting his hands, wrists, knees and ankles, which was treated with systemic steroids and methotrexate. Initial biopsy of the cutaneous lesions revealed a non-specific dermal granulomatous infiltrate, and Ziehl-Neelson stains were negative. Following an acute flare of the rash 10 months later, repeat biopsy diagnosed borderline lepromatous leprosy. Split skin smears showed a heavy load of acid-fast bacilli. Further examination revealed he had developed nerve thickening, hypoanesthesia of his cutaneous lesions, and a glove and stocking sensory neuropathy. He had emigrated from Hong Kong 40 years ago, and only returned for a 2-week vacation 3 years prior to the onset of his arthritis. There was no other foreign travel reported and he denied any leprosy contact. Treatment with a 1-year course of multi-bacillary therapy (MBT) was commenced and immunosuppression was discontinued. Recovery was complicated by the development of a 'type 1 reaction' characterized by erythema of his skin lesions and a right foot drop, necessitating the re-introduction of prednisolone. His cutaneous lesions and arthritis have subsequently resolved completely, but his foot drop and peripheral neuropathy persist. Leprosy is a chronic granulomatous disease caused by the bacillus Mycobacterium leprae. It has a variable incubation period from months to over 30 years, and therefore patients may present long after they have left the endemic area. There is a wide spectrum of clinical findings in leprosy primarily involving the nerves and skin. Musculoskeletal symptoms, such as arthritis, are the third most common manifestation of leprosy, and can mimic commoner conditions such as rheumatoid arthritis. This case illustrates an unusual presentation of leprosy, where arthritis preceded the onset of cutaneous lesions. Delayed diagnosis and the use of immunosuppression may have contributed to the development of irreversible nerve damage. Our case is a reminder of the need to consider a diagnosis of leprosy in any patient with an undiagnosed granulomatous rash, even in the absence of initial neurological signs, or a history of recent prolonged stay in an endemic country.

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P1802

Can a topical antimicrobial agent penetrate a bi-layered cell therapy and be effective against methicillin-resistant Staphylococcus aureus (MRSA)?

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Bi-layered cell therapy (BLCT) is a significant advancement in the field of wound healing. Topical antimicrobial agents have an important role in the treatment of infections in wounds covered with BLCT. To see whether mupirocin is able to penetrate the BLCT and inhibits the growth of MRSA. The entire surface of blood agar plates were covered with a high inoclum of MRSA(ATCC# 33591). BLCT specimens were placed on the agar plates and mupirocin was then applied on the top surface. As a positive control, mupirocin was applied directly on the agar plate, while BLCT specimens alone were used as negative control. The plates were subsequently incubated for 24 hours after which the zones of inhibition were assessed. Placing mupirocin on top of BLCT gave a 41.9 $\pm$ 17.2 mm inhibition zone diameter. Although it was smaller than the inhibition zone diameter produced by direct administration of mupirocin (26.3 $\pm$ 9.4 mm), this difference was not statistically significant. BLCT by itself did not create a zone of inhibition. Mupirocin is able to permeate BLCT and inhibit the bacterial growth underneath it. This study may have important clinical implications.

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P1803

Evaluation of the bactericidal properties of an amorphous gel in a swine model of second-degree burns

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Methicillin-resistant Staphylococcus aureus (MRSA) has become an acute problem due to the spread of MRSA in various types of wounds. With increasingly fewer options for treating MRSA-colonized wounds, identifying effective topical therapies is essential. In the present study, we assessed the efficacy of a daily application of a proprietary gel on the proliferation of planktonic and sessile MRSA in a non-lethal swine model of second-degree burn wounds. Thirty-nine burn wounds were created on the backs of 3 pigs, and inoculated with MRSA (ATCC 33591). Twenty-four hours later, the resulting MRSA biofilms were randomly allocated to 1 of 4 groups: untreated, placebo gel, proprietary gel (PROPGEL), or acetic acid-free PROPGEL. Each experimental treatment was applied once daily for 72 h. Viable planktonic and biofilm MRSA levels were determined 24, 48, and 72 h after initial treatment using a flush and scrub technique (n = 9 per group per time interval). PROPGEL significantly reduced the levels of planktonic MRSA after 24 h compared to the other treatment groups (i.e., 4.47 $\pm$ 0.33 vs. 5.33 $\pm$ 0.13 Log CFU/mL; $P < .05$). However, this bactericidal effect was not maintained for the remainder of the 72-h study, the bacterial counts in all wounds averaging 4.48 $\pm$ 0.51 Log CFU/mL. Furthermore, none of the gel formulations tested significantly reduced the growth of MRSA biofilms compared to that of untreated wounds. This data suggest a limited role for this proprietary gel in eradicating MRSA when it is applied only once daily. Additional studies, including the effect of this agent on other bacterial strains or alterations in the application regimen, are warranted.

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P1804

Hansen's disease: A case report and review

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We present a 32-year-old Asian female with a 1-year history of a worsening rash. This pruritic, nontender eruption began on the chest and spread to include her face, ears, back, abdomen, and bilateral upper and lower extremities. This patient is an immigrant from Micronesia who denies a similar rash in close contacts. Biopsy revealing a nodular histiocytic dermal infiltrate and Fite stain confirming the presence of numerous acid-fast rod-shaped organisms led to the diagnosis of Hansen's disease, specifically lepromatous leprosy. Leprosy, a debilitating and stigmatizing disease, is a mycobacterial infection caused by the acid-fast bacillus, Mycobacterium leprae. This condition is on the rise subsequent to the emergence of resistant strains and to an increase in the number of immunocompromised hosts. Leprosy is typically found in the tropics and subtropics. Worldwide prevalence is estimated to be 5.5 million cases with a bimodal age distribution (10-14 years and 35-44 years). Transmission occurs via nasal and/or oral droplets from a contagious individual to close contacts. Four types of leprosy (lepromatous, tuberculoid, dimorphous, and indeterminate) contribute to its varied clinical features. The skin and nervous system are primarily affected. Skin findings range from a few, asymmetrically located macules and papules to a diffuse, symmetrically located infiltrated plaques and nodules. Palpable nerves can also be observed. Nervous system manifestations vary from loss of temperature sensation to hypoesthesia and anesthesia. Treatment focuses on curing the infection and minimizing physical deformities. A multidrug regimen consisting of various combinations of dapsone, rifampin, and clofazimine is recommended. In addition, systemic corticosteroids and thalidomide may be required. This case report serves as a reminder to consider such conditions as leprosy in an era of global travel. A high index of suspicion coupled with a thorough history and physical examination, appropriate pathology and laboratory evaluation, early diagnosis, and prompt administration of therapy can lead to a good prognosis and an excellent survival rate.

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P1805

Incidence of erythrasma and trichomycosis among soldiers with pitted keratosis

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The corynebacteria are a group of gram-positive bacilli which include a diversity of species that are found on the skin as part of the normal flora. Three cutaneous disorders are regarded to be related to an overabundance of these coryneforms: pitted keratolysis, erythrasma, and trichomycosis. In 1982, Shelley and Shelley reported a simultaneous presence of the corynebacterial triad in 2 patients and suggested that clinicians making a diagnosis of pitted keratolysis need to examine the patient for evidence of other corynebacterial infections. However, there have been no reports regarding the prevalence of other corynebacterial infections in patients with pitted keratolysis. We conducted a prospective study to evaluate the incidence of erythrasma and trichomycosis in Korean soldiers with pitted keratolysis. A total of 57 patients with pitted keratolysis on soles were enrolled in this study. Among them, 23 (40.4%) patients had erythrasma in toe webs, 12 (21.1%) had erythrasma on groin or axillae, and 7 (12.3%) had trichomycosis axillaris or pubis. Coexistence of a triad of corynebacterial infection was found in 6 (10.5%) patients. These results imply that erythrasma and trichomycosis may coexist with pitted keratolysis more often than previously realized.

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P1806

Metastatic tuberculous abscess: An unusual presentation of cutaneous disease and a new diagnostic challenge

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The prevalence of tuberculosis has sharply increased worldwide. The greater number of immunosuppressed individuals, the development of multidrug-resistant strains and the increase of the geriatric population are contributing factors. Here we report 2 cases of metastatic tuberculous abscesses, 1 in a patient with hypogammaglobulinemia and 1 with connective tissue disease and immunosuppressive therapy.

Case 1: A 24-year-old man with hypogammaglobulinemia who developed multiple abscesses on the arms, hands, wrists and buttocks, as well as rectal-cutaneous fistula. He had a history of chronic diarrhea. The colon biopsy reported a granulomatous disease. The abdomen and pelvis CT scan reported psoas abscesses. Both bowel biopsy and cutaneous abscesses cultures were positive for the MTB complex and the tuberculin reaction was of 15 mm. A quadruple anti-tuberculous therapy was initiated with complete resolution of the disease.

Case 3: A 72-year-old woman with SLE was receiving high doses of prednisone and methotrexate. She had a traumatic fall and 2 weeks later she presented with a right gluteal abscess that drained purulent material. The biopsy of the ulcer was consistent with a granulomatous inflammation and Mycobacterium tuberculosis grew in the tissue cultures. The tuberculin test was weakly positive. A quadruple-anti-tuberculous therapy was started.

Discussion: The endogenous or metastatic infections, like the former cases are caused by hematogenous spread of mycobacteria from a primary focus during the period of lowered resistance but also may occur without an underlying evident disease. Massive necrosis and abscess formation are found. Acid-fast stains usually reveal great amounts of mycobacteria. Tuberculin sensitivity is usually lower than in other forms of skin tuberculosis and may be absent in severely ill patients.

Conclusion: These 3 cases highlight the sharp increase in the prevalence of tuberculosis, that tuberculosis has a high variety of cutaneous presentations, and that we need to have in mind this diagnosis in high-risk patients to offer a prompt therapy and limit the morbidity and mortality that it causes.

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P1807

Primary cutaneous actinomycosis of the forehead

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A 34-year-old lady, a tea estate worker, presented with an 18-month history of nodular lesions on the forehead. On few occasions these nodules were treated as abscesses at primary care hospitals. One of the histology reports from the tissue specimen showed acute suppurative inflammation with few aspergillous-like colonies. Patient was started on oral Itraconazole but she failed to respond after 6 months of therapy. She continued to develop new lesions. She recalled a history of soil-contaminated laceration in the forehead following a fall a few years before the development of these lesions. Clinical examination revealed that she had multiple subcutaneous nodular lesions. There were no sinuses or lymphadenopathy. CT brain showed only a subcutaneous soft tissue density. Biopsy was performed for histology and mycology. Histology showed dense infiltrate of neutrophils, plasma cells and lymphocytes in the dermis and subcutaneous tissue. It has also revealed bacterial colonies resembling actinomycetes. Fungal and bacterial cultures were normal. Blood glucose, complete blood count and HIV screen were normal or negative. Clinical diagnosis of primary cutaneous actinomycosis was made. Wider excision of the lesions was performed. The involved outer table of the frontal bone was removed. The wound was closed with forehead rotation flap. Patient received combination therapy with Streptomycin 500 mg/od, Rifampicin 600 mg/od and Co-trimaxazole 960 mg/bid for 1 month. The last 2 medications were continued as maintenance for further 7 months. Patient made significant improvement and she had no recurrences after 18 months of follow-up. Actinomycetes are filamentous bacteria which produce branching hyphae. Most actinomycetes infections are endogenous as they are normal common inhabitants in the human mouth. Cervicofacial actinomycosis is caused by these inhabitants. But the primary cutaneous actinomycosis usually follows a trauma and inoculation of the soil saprophyte actinomycetes, as occurred in our case. It is a very rare cutaneous infection presenting as subcutaneous nodules and sinuses. The culture of the bacteria is not very sensitive. Involvement of the deeper structures can occur in the longstanding cases. These bacteria are sensitive to penicillins, streptomycin, rifampicin and sulphonamides. Local excision and antibiotic therapy achieve excellent results.

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P1808

Quantification of acinetobacter baumannii biofilm formation in vitro

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Acinetobacter baumannii is becoming a prevalent pathogen in nosocomial settings and deep wound infections. It has the capability of biofilm formation which protects it from host defenses as well as antimicrobial agents. The purpose of this experiment was to visualize and quantify the progressing growth of a biofilm by this bacterium. A total of 12 wells were filled with the A. baumannii (ATCC# 6919) inoculum (3 wells/time interval). Subsequently, they were placed in a shake incubator and evaluated for biofilm formation after 2, 4, 6, 8, and 24 hours by measuring the optical density (OD) using spectrophotometry. In addition, we used a modified Congo Red staining technique to visualize the biofilm formation. The OD results showed that biofilm formation started as early as 2 hours after incubation and continued its growth up to the assessment's endpoint. Microscopically, the biofilm was observed as early as 2 hours. A. baumannii is able to rapidly produce biofilms in vitro. This study demonstrates that A. baumannii isolates produce EPS early which may in turn affect biofilm formation and therapeutic outcomes in persistent infections.

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P1809

The changing face of syphilis. Lues maligna: An important consideration in HIV infection

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We present a case whose initial presentation of HIV was with lues maligna (Fisher DA, Chang LW, Tuffanelli DL. Lues maligna: presentation of a case and review of the literature. Arch Dermatol 1969;99:70-3) the rare nodulo-ulcerative form of secondary syphilis. A 47-year-old man presented with a history of a widespread rash. He had initially presented 5 weeks previously with a 3-day history of rash, flu-like symptoms with sore throat, athralgia of the right ankle and anorexia. The rash had started on the face and then spread extensively. A diagnosis of chickenpox was made by a general physician and oral aciclovir commenced. He was discharged. Five weeks later he was re-referred increasingly systemically unwell. He was a homosexual man but denied any sexual contact in the last 3 years. He reported an episode of similar rash 2 years previously. Examination revealed florid necrotic ulcerative pustular papules and rupioid nodules on his face, trunk and limbs. Investigations revealed HIV positive antibody CD4 count of 780 cell/ml. Viral load was 3,631 copies/ml. Skin swabs and blood cultures grew methicillin-resistant staphylococcal aureus VDRL $>$ 16, Syphilis EIA positive, TPPA $>$128, Trep PA test: pos 1;5120 Cryptococcal antigen, toxoplasma and cytomegalovirus antibody, and Hep B and C serology were all negative. Histology showed a florid dermal inflammatory cell infiltrate consisting of a mixture of small lymphoid cells and histiocytes with occasional aggregates of neutrophils. Warthin Starry stain showed spirochetes. The diagnosis of HIV and secondary syphilis with clinical features of lues maligna was confirmed. Lues maligna is a rare form of secondary syphilis. Patients are systemically unwell and develop polymorphic, ulcerating rupioid lesions. Facial and scalp involvement are common. It is more common in HIV-positive patients (Don PC, Rubinstein R, Christie S. Malignant syphilis (lues maligna) and concurrent infection with HIV. Int J Dermatol 1995;34:403-7). Response to treatment is rapid. Lues maligna should be considered in the differential diagnosis of ulcero-nodular lesions, particularly in the context of HIV infection.

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P1810

The effect of various antimicrobial agents on Acinetobacter baumannii: An in-vitro evaluation

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Acinetobacter baumannii has recently emerged as an important pathogen in surgery and burn units. Due to its ability to develop resistance to antimicrobials, wound infection with A. baumannii is difficult to treat. Use of appropriate topical antimicrobial agents in these circumstances could be one of the first steps in prevention of A. baumannii wound infection. We will discuss the in-vitro effects of 7 common topical antimicrobial creams and dressings on A. baumannii. A. Baumannii ATCC# 6919 was subjected to sensitivity tests against mupirocin, silver sulfadiazine, mafenide acetate, a double antibiotic combination of polymyxin and bacitracin, a triple antibiotic combination of Neomycin, bacitracin and polymyxin, and 2 silver-containing dressings. Zones of inhibition were measured after 24 hours incubation period. Of the evaluated antimicrobial agents, mafenide acetate was the most efficacious followed by mupirocin, triple and double antibiotic combinations in decreasing order. The silver-containing dressings yielded a lesser zone of inhibition as compared to the previously mentioned, and no zone of inhibition was observed using silver sulfadiazine. Further in-vivo studies on the effect of antimicrobial agents against A. Baumannii are necessary to substantiate these findings and determine the potential clinical relevance of these therapies.

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P1811

Therapy of paresthesia in leprosy: A comparison of amitriptyline, gabapentin and vitamin B-complex

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Paresthesia/neuropathic pain often distresses leprosy patients but there are no guidelines for its management. We hence compared the efficacies of amitriptyline, gabapentin, and vitamin B-complex for its treatment; to our knowledge this is the first therapeutic trial in leprotic paresthesia. This randomized non-blinded comparative 8-week trial at a tertiary hospital included 49 patients (mean age, 33.2 years; 46 males) of leprosy with paresthesia (mean duration, 25 months). After initial assessment, patients were assigned to one of: Group A, amitriptyline, 30-80 mg/day (n = 17); Group G, gabapentin, 900-2400 mg/day (n = 16); Group B: vitamin B-complex, 2 capsules/day (n = 16).The groups had no statistically significant differences in demographic or disease parameters. One patient in group A and 2 in group B did not follow up. Amitriptyline and gabapentin were started at the lower doses, increased stepwise for 4 weeks and then maintained for another 4 weeks. Standard WHO anti-leprosy therapy was continued as indicated. Patients were reviewed every 2 weeks. Outcome measures were: approximate daily paresthesia duration (DPD), severity score for each paresthesia type (e.g., pricking, burning) (SSP), global paresthesia score (GPS) on a visual analog scale of 0-10 (all 3 scored by patients every 2 weeks), and investigators' grade of response (IGR) at last visit. For the most part, no statistically significant differences occurred in DPD or SSP reductions. Mean final reductions in GPS were similar in the 3 groups (2.3, 2.4 and 1.7 in groups A, G, B respectively; $P > .05$). Proportions of patients determined to have a modest response (IGR of 2 viz., reduction of daily duration of at least 1 paresthesia type by $>$ 50% or a score reduction of $>$ 3 for at least 1 type of daily paresthesia) were 11(68.8%), 11(68.8%) and 9 (56.3%) respectively ($P > .05$). All patients on amitriptyline reported persistent sedation and/or oral dryness (mostly at $\geq$ 50 mg/d); it was discontinued in 2. Six of those on gabapentin had mild/transient giddiness and/or sedation. Our results indicate that in the treatment of leprotic paresthesia (1) both amitriptyline and gabapentin produce modest improvements, (2) vitamin B-complex is of comparable efficacy, and (3) amitriptyline has significant side effects. Larger studies may show some differences in efficacy, but other treatment avenues must be explored for better management of patients with this problem.

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Patients in the gabapentin group received 50-100% of their medication from free physician's samples provided to the leprosy clinic by Intas Pharmaceuticals.

P1812

Whilst I'm here doc! Incidental diagnosis of acrodermatitis chronica atrophicans

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Acrodermatitis chronica atrophicans (ACA) is a rare late cutaneous manifestation of Lyme borelliosis. It is a slowly progressive, violaceous atrophic and finely wrinkled eruption situated on the extremities. Its rarity and subtle appearances make diagnosis difficult or delayed. Because of the associated possibility of systemic borelliosis, therapy is imperative to prevent progressive neurological cardiac and joint sequelae. We present 3 English residents who presented with other lesions or skin disease who fortuitously took the opportunity to seek advice about what transpired to be ACA "whilst I'm here, Doc!" A middle-aged lady presented with a plaque of morphoea on her back. As an incidental matter, she asked advice about an unusual dusky violaceous and atrophic patch affecting most of the dorsal right hand. She had taken holiday many years ago in Austria, and had caravanned in The New Forest, Hampshire; both areas are populated with deer and known sources of Lyme disease. High titre IgG and IgM antibodies to Borellia burgdorferi were found. She received high dose doxycycline for a month. A 35-year-old man sought advice about a changing mole on the arm. He opportunistically sought advice about a leg rash "while I'm here, Doc." After a walking holiday in the Lake District, Cumbria, 8 years previously, he had developed a spreading red ring on his right thigh. No tick bite was recalled. It eventually subsided, to be followed several years later by atrophic wrinkled skin on the right thigh and violaceous atrophic patches on the knees. ACA was confirmed on histology and by strongly positive B. burgdorferi serology. He had occasional tingling in his limbs and non-specific aches and pains. Neuroborelliosis was suspected but, lumbar puncture declined, intravenous cephuroxime was given for 2 weeks. A 72-year-old lady was referred with actinic keratoses on the dorsal hands. She sought advice also "while I'm here" about a violaceous wrinkled patch over the right inner calf and thigh. She had walked in Austria several times but denied being bitten by a tick. Positive B. burgdorferi serology confirmed ACA. As disease appeared confined to the skin, doxycycline was given for 4 weeks. ACA in the UK is rare. The diagnosis was made in all 3 cases serendipitously. Take heed to the plea "while I'm here Doc.." It sometimes heralds the most interesting dermatology.

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P1813

A double blind, randomized clinical study to test the irritancy potential of 2 alcohol-based hand sanitizers in an Asian population

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Alcohol-based hand sanitizers play an important role in hand hygiene for both healthcare and consumer settings. Hand sanitizers marketed in the United States typically contain 62% ethyl alcohol while in Japan an 83% ethyl alcohol formula is available. This 2-week double blind, randomized study was undertaken to compare the skin irritation potential of 62% and 83% alcohol hand sanitizers in an Asian population. Thirty males and 30 females participated in the study. Subjects were randomized to receive 1 of 2 hand sanitizers and instructed to use the assigned product 10 times per day for 14 consecutive days. Visits were scheduled at baseline, Day 2, Day 7 and Day 14. At each visit, subjects' hands were examined for erythema, dryness/scaling, and fissuring by the investigator, and subjects were asked to assess the level of stinging/burning, itching, and tightness/dryness. For each evaluation, a 4-point scale was used with 0 being None, 1 Mild, 2 Moderate, and 3 Severe. By investigator's assessment, the overall irritation scores for the 62% alcohol sanitizer were 0.09+0.10 and 0.04+0.05 at baseline and Day 14, respectively, and those for the 83% alcohol sanitizer were 0.10+0.13 and 0.06+0.10 at baseline and Day 14, respectively. By subject's own assessment, the overall irritation scores for the 62% alcohol sanitizer were 0.01+0.06 and 0.05+0.14 at baseline and Day 14, respectively, and those for the 83% alcohol sanitizer were 0.02+0.09 and 0.05+0.15, respectively. The 83% formula does not cause more irritation than the 62% formula. Both products have minimal irritation potential with continuous use.

Author disclosure: Dr. Li and Dr. Kohut are employees of Pfizer Consumer Healthcare.

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P1814

An unusual case of lues maligna in a non-HIV infected patient

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Lues maligna, or malignant syphilis, is a rare form of secondary syphilis characterized by widespread nodulo-ulcerative lesions and is frequently associated with fever, arthralgias, and occasionally hepatitis. This particularly virulent form of syphilis is most commonly seen in HIV-infected individuals. We report a case of a 38-year-old African American woman who presented with a 2-week history of lip swelling and ulcers on her body. She had been diagnosed with syphilis at least 2 years earlier but had not received treatment. Past medical history included tuberculosis, seizure disorder, multiple sexually transmitted diseases, and cocaine abuse. Examination revealed a tender, crusted, indurated plaque encompassing the entire left upper lip and multiple randomly distributed nodules with central ulceration over her trunk and extremities, without palmoplantar involvement. Laboratory studies revealed a positive RPR (1:1024) and FTA-ABS. Other testing included a nonreactive HIV ELISA and a negative viral hepatitis screen. Biopsies of the left upper lip plaque and of an ulcerated nodule on the leg revealed a dense dermal infiltrate of epithelioid histiocytes, giant cells and plasma cells. Warthin-starry stain showed rare organisms. Bacterial culture from the left lip plaque also grew MRSA, sensitive to clindamycin. The patient was diagnosed with lues maligna with superinfection of the left lip and was treated with intramuscular benzathine penicillin and oral clindamycin. Although an uncommon form of syphilis, lues maligna continues to be present even in non-immunocompromised patients and should be considered in the differential diagnosis of a patient with multiple cutaneous ulcers. Early recognition and treatment of these patients are essential to a successful clinical outcome.

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P1815

Leprosy diagnosis and outcomes in a non-endemic setting

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Leprosy or Hansen's disease is a chronic infection due to Mycobacterium leprae primarily affecting skin and peripheral nerves. Worldwide, more than 2 million are affected and an estimated 2-3 million are permanently disabled. Leprosy is endemic in regions of central Africa, India, Southeast Asia, and Latin America. In non-endemic areas, such as in North America, leprosy is rare and thus often poses diagnostic challenges. We present an interesting case, a review of recent local cases, and an overview of clinical aspects of leprosy. Over a 12-year period, 20 cases of leprosy were identified in the Capital Health Region (Edmonton, Alberta, Canada), which serves a population of over 1 million. Ninety-five percent of patients were immigrants who left their country of origin an average of 11.6 years prior. One was a Canadian with extensive travel history. Skin findings were the presenting symptom in 95% of patients, the remainder presenting with neurological deficits. The average duration of symptoms at diagnosis was 1.5 years. Thirty percent had a prior alternate diagnosis including dermatophyte infection, lichen simplex chronicus, drug allergy, diabetic peripheral neuropathy, and idiopathic peripheral neuropathy. Despite treatment, 40% had residual deformity and/or a permanent skin or neurological abnormality. Leprosy is rarely encountered in North America and occurs primarily in immigrants from endemic areas. It is, however, a treatable condition with a high potential for serious morbidity if untreated. Dermatologists need to be well aware of its protean manifestations.

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P1816

Leprosy reactions

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Approximately 30% of patients with leprosy develop acute inflammatory episodes called leprosy reactions. The main presentations include type 1 or reversal reaction, and type 2 or erythema nodusum leprosum. Additionally, Lucio's phenomenon may occur in untreated cases of diffuse leprosy. The etiology of such reactions is being elucidated and a dysregulation of cellular immune responses is frequently proposed. Complications are due to variable nerve damage and the goal of treatment is to prevent neurologic sequelae. Herein, we present 3 cases of the various leprosy reactions with illustrative photographic documentation of skin lesions.

Case 1: 52 y/o patient with borderline leprosy on rifampicin 600 mg monthly and dds 100 mg/day developed a reversal reaction, presenting with worsening erythematous plaques, fever, myalgias, orchitis, nasal bleeding and lymphadenopathy. Symptoms and skin lesions improved after treatment with high dose oral steroids.

Case 2: 20 y/o patient with lepromatous leprosy developed fever and tender skin lesions on extremities. Biopsy showed panniculitis and mieschers granulomas diagnostic for erythema nodosum leprosum. Lesions disappeared after treatment with aspirin, oral prednisone and clofazimine.

Case 3: 56 y/o patient with diffuse lepromatous leprosy since age 29 developed fever, lymphadenopathy and organomegaly. On biopsy, we observed the characteristic vasculitic and thrombotic reaction of Lucio's phenomenon. Patient did not respond to systemic steroids, cyclophosphamide, and dapsone and died later of multi-organ failure. Additionally, we will discuss current immuno-pathogenic mechanisms and state of the art management of leprosy reactions.

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P1817

Lupus vulgaris in a bcg-vaccinated pediatric patient

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We present a case of an otherwise healthy 9-year-old Haitian girl presenting with an asymptomatic rash present for one and a half years. The rash began 2 months prior to immigrating to the United States in April 2003 as generalized nasal erythema with a red papule. The papule then spread to become a hypertrophic, hyperpigmented plaque bordering the nose with central clearing and resolution of the nasal erythema. The patient subsequently developed an analogous lesion on her left antecubital fossa and around her mouth, both asymptomatic. The rash did not improve after empiric treatment with 3 months of oral griseofulvin and lotrimin cream from May to August 2004, followed by an additional month of griseofulvin from Jan-Feb 2005. Both patient and mother deny any other lesions or symptoms. Biopsy of the lesion demonstrated tuberculoid granulomas with epithelioid histologies and langerhans multinucleate giant cells. Special stains for afb, Hansen's bacilli, and fungi stains are negative, afb cultures pending. Placement of a tuberculin skin test(tst) resulted in a 25 mm erythematous indurated plaque at 48 hours. Chest X-ray was normal. The patient had had bacilli calmette-guerin(bcg) vaccination as an infant. This case of lupus vulgaris demonstrates a rare presentation of cutaneous tuberculosis in a pediatric patient. The patient's history of infantile bcg vaccination complicated the clinical situation, as bcg vaccination can cause subsequent reactivity of a tst, making it difficult to distinguish between false positive tests and true disease. Several factors determine the effect of bcg on tst reactivity, the most important being age of vaccination, with individual reactivity rapidly waning following neonatal vaccination. Vaccination administered after the first year of life is 2 times more likely to cause a positive tst. After exhaustive evaluation, current guidelines recommend that a positive tst after bcg inoculation of greater than 10 mm is consistent with infection and should be treated as such. In addition, all bcg vaccinations placed more than 15 years prior to tst should be ignored as a possible cause of reactivity. Finally, any tst reactivity of 15 mm or greater is unlikely to be due to bcg regardless of age, type of tuberculin used, or interval to testing. Treatment of lupus vulgaris is analogous to systemic tuberculosis, and our patient has improved on multi-drug therapy.

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P1818

Mycobacterium fortuitum skin infection following a pedicure and footbath at a nail salon

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A 30-year-old female presented with a gradually enlarging painful red nodule on the right pretibial skin of 2 weeks duration. She had visited a nail salon for a pedicure and footbath approximately 2 weeks before the lesion appeared. There was no significant past medical history, and her only prescribed medication was an oral contraceptive pill. She used a home waxing kit prior to visiting the nail salon. On physical exam the patient was found to have a tender, fluctuant, red nodule on the mid right shin. Following a bacterial culture of the lesion, cephalexin, 500 mg 4 times a day was initiated for a presumed skin abscess. After 2 weeks of treatment the nodule continued to enlarge and ulcerate. Bacterial cultures produced no growth. A skin biopsy was performed for histopathologic examination, as well as mycobacterium culture. A smear preparation from the lesion revealed numerous acid-fast bacilli. Tissue culture grew M. fortuitum in 4 days. The patient was treated with a combination of levofloxacin, clarithromycin, and ethambutol for a period of 2 weeks followed by an additional 6 weeks of levofloxacin and clarithromycin, exclusively. Significant improvement was observed 2 weeks after starting antibiotics, and she was completely free of skin findings after 8 weeks of treatment. An investigation was commenced to determine if the footbaths at the nail salon were a potential source of M fortuitum. M. Fortuitum is found in soil, dust, and water. Soft tissue infection with the organism characteristically follows surgical or invasive procedures with contaminated instruments. Our case illustrates the difficulty in making a diagnosis of M. fortuitum infection on presentation. Confounding factors include similarities to more common disease entities, such as bacterial abscesses, furunculosis, or cellulitis, as well as its relative rarity. The potential that a contaminated nail salon footbath caused the infection in our case is intriguing, as there have recent reports of epidemic M. fortuitum linked to the whirlpool footbath of a nail salon.

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P1819

P1820

Primary cutaneous diphtheria

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A 13-year-old Caucasian male with known germ cell tumor presented for his scheduled chemotherapy. Physical examination revealed multiple painful ulcers, approximately 0.5-1 cm in size, with overlying black crust, elevated borders, and surrounding erythema on his scrotum. Gram stain of the lesions revealed innumerable gram-positive rods. The ulcers improved quickly with empiric systemic antibiotic therapy with ciprofloxacin. Bacterial and viral cultures were negative. Based on the clinical exam findings, Gram stain, and response to antibiotics, we believe these ulcers were secondary to coryneform organisms, most likely Corynebacterium diphtheria. Cutaneous diphtheria usually begins as a painful vesicle filled with straw-colored fluid or a pustule that breaks down, leaving a well-demarcated, oval, shallow, punched-out appearing ulcer. Ulcers range in size from several millimeters to a few centimeters and may be single or multiple. Wound edges are slightly inverted, elevated, or undermined. Ulcers possess an adhering membrane that progresses from grey to black. The ulcer eventually becomes anesthetic, and when the black eschar is removed, a serous, serosanguinous, or hemorrhagic base is revealed. Surrounding skin is usually edematous and pink to violaceous in color. Spontaneous healing has been reported to take 6 to12 weeks, but may take as long as 1 year, leaving depressed scars. Cutaneous diphtheria is rare. Most cases are associated with tropical areas, crowded conditions, and poor socioeconomic classes. C. diphtheriae can complicate any break in skin integrity. Special growth media is required for culture. If the organism is isolated, it should be tested for toxigenicity. Gram stain reveals Gram positive rods. Differential diagnosis of gram positive rod infections is reviewed. Treatment of confirmed cases of respiratory C. diphtheriae is with antitoxin. Because of the possible systemic sequelae of C. diphtheriae, some experts recommend cutaneous diphtheria be treated with antitoxin as well, especially if there are extensive and multiple lesions with pseudomembrane formation, but this is controversial. Systemic antibiotics are recommended. For respiratory cases, antimicrobial therapy is not recommended as sole therapy in lieu of antitoxin. Treatment is documented as 2 negative cultures at conclusion of treatment.

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P1821

Purpuric plaques in a 19-year-old man

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Background: Purpura fulminans is defined by the triad of widespread purpura, disseminated intravascular coagulation, and multi-organ failure. Although most commonly associated with meningococcemia, it can be associated with other infectious agents and coagulopathies. It is, at least partially, due to impairment of the protein C coagulation pathway. The differential diagnosis of acute purpuric eruptions includes acute bacteremia (e.g., N. meningitidis, S. pneumoniae), Rocky Mountain spotted fever, toxic shock syndrome, enteroviral infection, leptospirosis, gonococcemia, Henoch-Schonlein purpura, vasculitis, coagulopathies, and endocarditis.

Observation: A 19-year-old man presented with 2 days of fevers, myalgias, cough, and malaise. On physical examination, he was noted to have a rapidly progressing "rash" on his extremities. He was also found to be hypotensive with normal mentation and no meningeal signs. Laboratory evaluation revealed a bandemia of 45%, acute renal failure, and a mild coagulopathy. Multiple antibiotics were started and dermatology was consulted. On examination he had multiple, stellate 0.5-10 cm violaceous to gray plaques primarily on his extremities. Mucous membranes were normal. Histopathology revealed widespread vascular damage, occlusive thrombi, neutrophils in the vessel walls and interstium, and large numbers of gram-negative diplococci in endothelial cells. Blood cultures grew N. meningitidis 2 days later. He was treated with ceftriaxone 2g IV every 12 hours.

Discussion: This case is interesting in that the patient had no risk factors for meningococcemia, had no signs of meningitis (including a normal lumbar puncture), and had no pneumonia. Purpura fulminans without meningitis or pneumonia is the rarest form of N. menigitidis sepsis and has the worst prognosis. The patient did well and was weaned off pressor agents within 2 days. He was discharged home less than 2 weeks after his admission. His purpuric areas are healing and he is being followed to ensure complete re-epithelialization. Meningococcemia must be in the differential diagnosis of any purpuric eruption due to its often fulminant course and high mortality rate.

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P1822

The efficacy, application-site tolerability and safety of clindamycin phosphate 1% foam in the treatment of superficial Staphylococcal folliculitis

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Clindamycin is effective in the treatment staphylococcal cutaneous infections. A foam formulation of clindamycin phosphate 1% is adaptable to application over a wide body surface area due to easy spreadability, rapid penetration into skin, and lack of residue. Pharmacokinetic study has demonstrated negligible systemic absorption of clindamycin after topical application using the foam vehicle or aqueous gel.

This poster reports on results from an open-label observational study of adult patients treated with clindamycin phosphate 1% foam applied once daily over durations of 1 week or 2 weeks for bacterial folliculitis of the trunk and/or extremities (N = 30) caused by susceptible organisms based on reported sensitivity patterns. The primary efficacy parameter is complete clearance of disease at endpoint (1 week vs 2 weeks treatment duration) based on investigator assessment. Safety assessment including application site reactions and systemic toxicity was also completed.

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P1823

The management of staphylococcal skin infections: An up-to-date review

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Skin and skin structure infections caused by Staphylococcus aureus are important concerns for the practicing dermatologist as the frequency of community acquired Staphylococcal infections are on the rise. A significant problem associated with the increase in bacterial infection is the inappropriate or unnecessary use of antibiotics with the subsequent development of antibiotic resistance. The current treatment paradigm for uncomplicated skin and skin structure infections caused by Staphylococcus aureus is to treat as a methicillin-susceptible infection and to consider alternatives if the infection is non-responsive to initial treatment, depending upon the results of bacterial culture conducted at baseline. Cefdinir is an extended-spectrum semisynthetic third generation cephalosporin that is indicated for the treatment of uncomplicated skin and skin structure infections caused by Staphylococcus aureus (including β-lactamase producing strains) and Streptococcus pyogenes. This antibiotic would therefore be suitable as a first-line treatment. Cross-reactivity of cefdinir in penicillin-allergic patients is less likely due to the distinct structure of the cefdinir side chain, making this drug a consideration for use in patients with a penicillin allergy.

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