Case Report

Atypical Erysipelas – a Diagnostic Challenge

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Case Report

Erysipelas is a superficial skin infection with lymphatic involvement. Predisposed are persons with a disrupted skin barrier caused by trauma, eczema, tinea, impetigo, or an unbroken epidermis but affected by edema, venous stasis, lymph stasis, a pelvic limb, diabetes mellitus, nephrotic syndrome, or alcohol abuse (**1**). In most cases, group A streptococci are responsible organisms. The second most frequent causative organisms are group G streptococci, also during the recent MRSA epidemic (**2**).

After prodromal symptoms lasting 4 to 48 hours of malaise, chills, fever, and occasionally anorexia and vomiting, one or more red, tender, firm spots appear at the site of infection. These spots rapidly increase in size, forming a tense, hot, red, shining, uniformly elevated, large patch with an irregular outline and a sharply defined, raised border. Lymphangitic streaking may be prominent. In older reports, erysipelas was described as characteristically involving the face. At present, the lower extremities are more frequently involved. Typically, erysipelas is unilateral. The diagnosis of erysipelas is based on the lesion's appearance on physical examination. Bacteriologic cultures are useless in patients with typical features because positive results are rare. The differential diagnosis entails contact dermatitis, stasis dermatitis, lymphoma cutis, as well as cellulitis the acutely spreading infection of the skin which extends more deeply than erysipelas and involves the subcutaneous tissues. Sometimes it is difficult to distinguish between erysipelas and cellulitis. Typical sites involved by erysipelas are the calf and less often the face. In unusual locations, the diagnosis may be challenging as illustrated in

the following.

Erysipelas of the face

A 78-year-old woman was in comprehensive geriatric care after surgery for neuroglioma. She was in a vegetative state and was breathing through tracheostomy when fever 39.50C emerged, followed by erythema and swelling of the right side of the face also spreading to the neck, the pinna of the ear, and to both sides of the chin (Figure **1**). Facial erythema spreading to the pinna is known as a specific finding that differentiates erysipelas from cellulitis (**3**). It is also held that erysipelas spares the nasolabial fold (**4**); the latter rule was not met in this patient. In diagnosing erysipelas and the patient being allergic to penicillin treatment with clindamycin and ciprofloxacin was started. Within twenty-four hours the temperature returned to normal, within three days the erythema and swelling remitted, and by day seven had completely resolved.

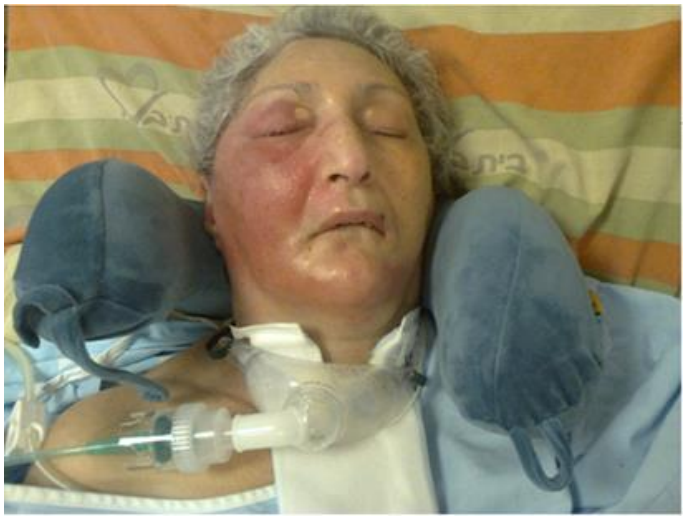

Figure1: Facial erysipelas-a clinical diagnosis

Erysipelas of the thigh

A 42-year-old woman had suffered a traumatic brain injury and remained in a vegetative state. Erysipelas confined to the thigh was an unusual event during her long stay in our ward (Figure **2**). No portal of entry of the infection could be found. The favorable response to cefazolin treatment was fast, as expected. Erysipelas of the thigh is rare and significantly associated with prior surgical disruption of lymphatic vessels (**5**). This was not the clinical context in this patient.

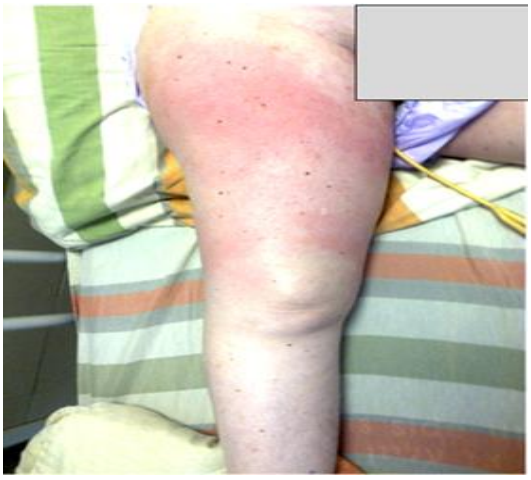

Figure 2. Erysipelas in atypical location

Erysipelas of the abdominal wall

A 72-year-old man was transferred to our institution from a tertiary care hospital for post-acute care. He had suffered an exacerbation of chronic respiratory failure on the background of obstructive sleep apnea, morbid obesity (body weight 150 kg), chronic atrial fibrillation, and arterial hypertension. The patient's mild chronic renal failure had deteriorated. Three days after admission to our ward extensive erythema of the anterior abdominal wall emerged. The patient was alert, denied abdominal pain. The body temperature was normal, the respiratory rate was 44/minute, with normal breath sounds, the SpO2 was 96% on ambient air and the ETCO2 was 32 mmHg. The WBC was 20100/mm3 with 90% neutrophils (Figure 3). Amoxicillin/clavulanate treatment was started. Four days later the erythema had resolved. Relevant in the differential diagnosis were an abdominal wall phlegmon and an intra-abdominal collection or intra-abdominal tumor invading the abdominal wall, each easily excluded in this case. There were neither complications during the acute phase nor late recurrence of the disorder.

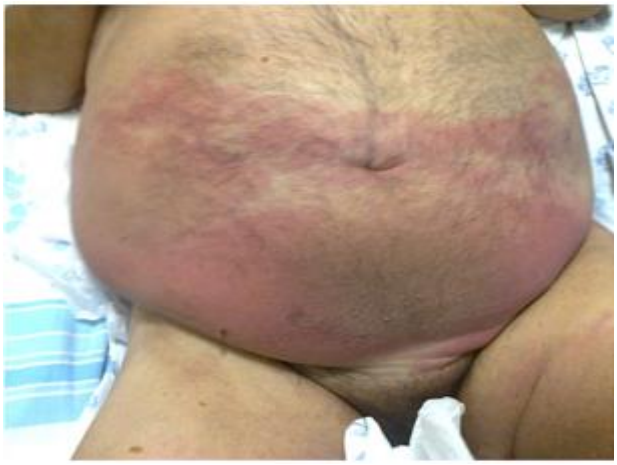

Figure 3. Erysipelas of the abdominal wall

Though abdominal wall cellulitis is occasionally seen in the morbidly obese, the literature contains few data concerning erysipelas of the abdominal wall (**6**). Abdominal wall cellulitis is a distinctive infectious complication in patients with morbid obesity. At a difference, the well-defined margins of the erythema in this patient are consistent with erysipelas.

Conclusion

The diagnosis of erysipelas is straightforward in the typical case but maybe challenging when involving unusual sites, as illustrated above. There may be confusion with the diagnosis when a skin eruption, infectious or not, resembles erysipelas (**7**-**9**). The acute onset of the illness with high fever, the strictly delimitated margins of the erythema, associated leukocytosis, and a quick response to antibiotic treatment make an important difference. The diagnosis may be elusive in the immune-deficient host when atypical fever patterns may be noted or facial swelling preceding the fever (**10**). Recognition of erysipelas, whether typical or atypical, is important to ensure quick and appropriate management.

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