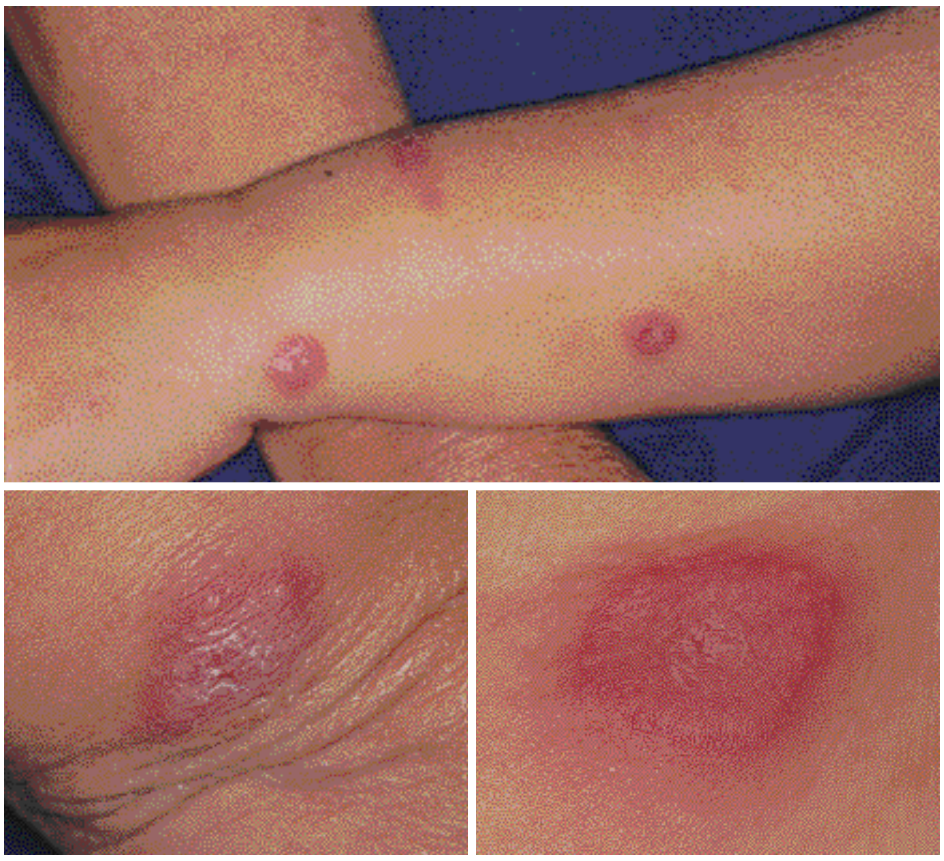
What Is Your Diagnosis?



A 40-year-old woman presented with the acute onset of multiple tender skin lesions. The lesions, fever, and leukocytosis failed to respond to oral antibiotics. Skin biopsy results revealed massive papillary dermal edema and a perivascular and diffuse neutrophilic infiltrate with karyorrhexis.

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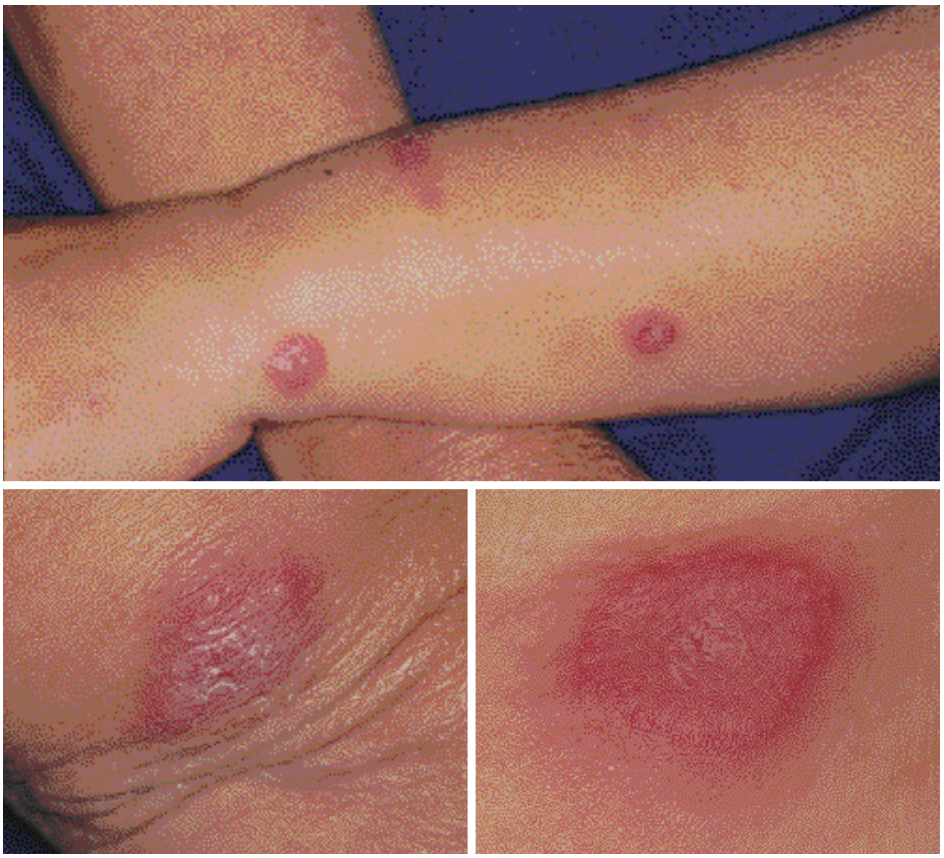
The Diagnosis: Sweet Syndrome (Acute Febrile Neutrophilic Dermatosis)



Robert Douglas Sweet first described acute febrile neutrophilic dermatosis as a distinct clinical entity in 1962. Sweet Syndrome (SS), as it is commonly called, is classified as a neutrophilic dermatosis and characterized by a noninfectious rash with varying degrees of fever and peripheral neutrophilia. Onset most commonly occurs between the ages of 40 and 60 years, and a 4:1 female-to-male ratio has been noted.[1] Each episode of SS is characterized by the acute onset of tender, edematous plaques, most commonly on the upper extremities, neck, face, and, less frequently, on the trunk and lower extremities. Individual lesions are raised and markedly edematous. Atypical lesions include vesicles, bullae, and ulcers[2]; atypical presentations are more commonly associated with leukemia and occur with almost equal incidence in men and women.

SS often is mistaken for an infection, and treatment with antibiotics is unsuccessful, except in cases that represent a reaction to enteric *Yersinia*.[1] Untreated lesions resolve in 2 months, and scarring is rare. The lesions respond well to oral corticosteroid therapy. Recurrences are common and often follow an upper respiratory infection. Rarely, SS can be chronic, with new crops of lesions appearing before older lesions resolve.

SS is a systemic disease with multiorgan involvement. Extracutaneous manifestations may involve the eye (conjunctivitis, conjunctival hemorrhage, iritis), kidney (hematuria, proteinuria, renal insufficiency), liver (neutrophilic and lymphocytic infiltrate in the portal tract), lungs (culture-negative pulmonary infiltrates), musculoskeletal system

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(arthralgias and myalgias), and nervous system (headaches and meningitislike symptoms).[3,4]

Biopsy specimens typically demonstrate a nodular and diffuse infiltrate of mature neutrophils with karyorrhexis and marked papillary dermal edema. Evidence of true vasculitis (expansion of vessel walls with fibrin deposition) is typically lacking but may be present focally. The infiltrate is seen primarily in the upper and mid dermis and may include lymphocytes, histiocytes, and eosinophils.

Laboratory findings are nonspecific. Neutrophilia and elevated sedimentation rates are common. Anemia and abnormal platelet counts are more common in malignancy-associated forms of SS.[3]

Although the etiology of SS is unknown, it is felt to be immunologically mediated.[5,6] Induction by drugs (eg, nitrofurantoin, trimethoprim-sulfamethoxazole),[7,8] vaccines, and trauma also are well documented. Propst et al[9] report a case of recurrence of SS after cervical surgery related to trauma from or hypersensitivity to the bandage tape.

An associated malignancy is present in 10% to 20% of patients with SS.[10] Hematologic malignancies account for 85% of these malignancy-associated cases,[11] most commonly acute myelogenous leukemia and lymphoma. Carcinoma of the genitourinary tract is the most commonly associated solid tumor.[1] SS is the presenting sign of malignancy in approximately two thirds of cases of malignancy-associated SS.[11] The presence of ulcerative lesions, oral lesions, abnormal platelet counts, or anemia should prompt investigation for an associated malignancy.[2] Some authors have recommended a directed systemic evaluation in all patients with SS.[4,5]

Other associations include inflammatory bowel disease, rheumatologic disease, pregnancy, subacute thyroiditis, and erythema nodosum.[2] Administration of granulocyte colony-stimulating factor after chemotherapy can cause an eruption similar to SS.[12,13]

A 3-to-6-week tapering course of prednisone with a starting dose of 0.5 to 1.0 mg/kg per day is the treatment of choice for acute SS.[1,4] Improvement is rapid, with resolution of symptoms occurring within hours and clearing of lesions within days. Alternative treatments include cyclosporine, colchicine, dapsone, potassium iodide, clofazimine, indomethacin, methotrexate, isotretinoin, and pulse steroids with chlorambucil.[1,4,14,15]

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