Leukemia cutis manifesting umbilicated cutaneous lesions

Sir,

A 30-year-old married woman accessed our dermatology clinic with an asymptomatic, skin-colored cutaneous eruption of the duration of 15 days. Her history was conspicuous for moderate to high-grade fever without chills, lassitude, and on and off diarrhea for the last 2 months. She also had a rapidly progressive gingival overgrowth with on and off gingival bleeding for a month. She had a single, 1-year-old live issue. There was no history of complaints pertaining to cardiovascular, gastrointestinal, pulmonary, central nervous and musculoskeletal systems. She denied anorexia, night sweats, epistaxis, and malena. Cutaneous examination revealed multiple umbilicated, skin-colored to slightly erythematous, infiltrated papules and plaques, 5 mm to 1 cm-sized, present over face, chest, back, arms, forearms, thighs, and legs [Figure 1]. The distribution of the lesions was symmetrical. Gingival hypertrophy was prominent. General physical examination revealed bilateral cervical lymphadenopathy and hepatosplenomegaly. The gingivae were swollen [Figure 2], tender and bled to touch. Rest of the mucocutaneous examination was normal. The patient’s complete blood counts were as follows: Hemoglobin 3.9 g/dl, total leukocyte count 69,800/cu mm, platelet count 39,000/cu mm. Peripheral blood smear examination showed more than 30% blasts, which depicted cytoplasmic blebbing and nuclear membrane folding. Red cells were normocytic, normochromic in morphology, except a few microcytes. Prothrombin time, activated partial thromboplastin time, and fibrin split products were normal. Bone marrow aspiration smear showed 52% blasts. Unfortunately, the facility of cytogenetics and molecular analysis was not available at our center. ELISA for HIV and VDRL test were negative. Thyroid function tests, blood sugar, renal and liver functions were all normal. Urine microscopy was normal. Ultrasonogram of abdomen was found to be normal. Microscopic examination of a section from a representative lesion revealed a dense monotonous leukemic infiltrate in the dermis circumscribed around dermal vessels, appendages, infiltrating in between the collagen bundles and extending to the subcutis [Figure 3a]. These cells had increased nucleus/cytoplasm ratio and basophilia, and nuclei were vesicular [Figure 3b]. Periodic-acid-Schiff stain and stain for acid-fast bacilli were unremarkable. Accordingly, a diagnosis of acute myelogenous leukemia with leukemia cutis was rendered. After obtaining the requisite pre-chemotherapy investigations, combination chemotherapy comprising daunorubicin and cytarabine along with prednisolone was initiated on a monthly basis. So far, 3 cycles have been administered. Her cutaneous lesions have regressed partially. Her current blood counts are as follows: Hemoglobin 8.6 g/dl, total leukocyte count 10,600, and platelet count 1,25,000 /cumm.

Leukemia, a hematological disorder, is characterized by a marked increase in circulating immature or abnormal white blood cells, a result of disorderly differentiation and proliferation of neoplastic cells. Leukemia may be either acute or chronic, depending on to its clinical behavior. Furthermore, it is characterized as lymphocytic or myelocytic, according to its histogenetic origin. Leukemia cutis (LC) manifests in different types of leukemia with highest involvement in adult T cell leukemia,
followed by acute myelogenous leukemia\(^1\) as seen in the present case. LC can precede, be concomitant with, or present later in the course of leukemia.\(^2\) Extra-medullary sites may be involved in up to 90% of the cases of AML in addition to LC.\(^3\) This most commonly involved the subperiosteal bone structures of the skull, gingival mucosa, and paranasal sinuses. In the present case, rapidly progressive gingival hypertrophy was an early sign as has been described earlier.\(^4\) Cutaneous lesions of varied morphology, manifesting as leukemia cutis have been described. Macules, papules, plaques or nodules which may be skin-colored to erythematous or violaceous colored are common. Exanthemeatus eruptions, purpura, hemorrhagic bullae, Sweet’s syndrome-like lesions, ulcers, butterfly-like rash, erythema multiforme-like lesions, granuloma annulare-like lesions, urticaria, leonine facies, urticaria pigmentosa-like lesions, erythema annulare centrifugum, stasis dermatitis, psoriasiform, chronic paronychia, subungual lesions, cauliflower-like lesions, Grover’s disease-like lesions, and chemical burn-like lesions have been described.\(^5-8\) Notwithstanding, umbilicated cutaneous lesions as illustrated in the present case have not been described so far. The presence of such lesions in an immunocompromised scenario calls for a differential diagnosis of *molluscum contagiosum*, cutaneous cryptococcosis, histoplasmosis, aspergillosis, penicillosis, and herpes. Therefore, it is imperative to take cognizance of and include leukemia cutis in the differential diagnosis of umbilicated skin lesions.
Sir,

A 35-year-old male, known case of type 1 insulin-dependent diabetes mellitus (IDDM) and vitiligo vulgaris (VV) (stable for past 10 years) involving 15% body surface area, presented with multiple, asymptomatic, erythematous papules and nodules over the photo-exposed sites; forehead, periorbital area and nape of neck [Figure 1]. The lesions developed over the last one year. In addition, atrophic, scaly plaques over pre-auricular area [Figure 2], and psoriasiform papules and plaques over lower legs for the same duration were present. All these lesions were present over vitiligo macules. He also complained of dry cough with progressive dyspnea of three years duration (NYHA- New York Heart Association, Grade IV at presentation). Patient denied history of fever, anorexia, or weight loss. Ophthalmic evaluation revealed no abnormalities.

Histopathology from nodular, psoriasiform, and atrophic lesion demonstrated non-caseating, well-defined, naked granulomas in dermis consistent with sarcoidosis [Figure 3]. Decrease in number of melanocytes in the basal layer was evident in the biopsy from VV lesions. The patient was further investigated to look for any systemic involvement, and the relevant investigations have been tabulated [Table 1]. All the blood investigations were within normal limits, except for raised serum angiotensin converting enzyme levels (96 U/L) and elevated blood sugar levels (fasting 208 mg/dl and postprandial 310 mg/dL). Thyroid function tests including anti-thyroglobulin antibody was within normal range. The chest X-ray revealed bilateral hilar lymphadenopathy with interstitial infiltrate predominantly at the bases, [Figure 4] whereas the contrast-enhanced computed tomography of chest revealed multiple bilateral non-enhancing mediastinal lymph nodes with nodular lesions, suggestive of sarcoidosis. Pulmonary function tests showed mild restrictive pattern. Patient refused to undergo bronchoscopy. The abdominal ultrasound was normal. On the basis of clinical evaluation and investigations, a diagnosis of sarcoidosis (both cutaneous and pulmonary) was made, and the patient was started on oral prednisolone 40 mg daily and hydroxychloroquine 200 mg twice daily and was advised photo-protection. For IDDM, he was continued on insulin titrated to blood sugar.

The etiopathogenesis of cutaneous sarcoidosis remains obscure. It is thought that continued exposure of a genetically susceptible individual to an antigenic stimulus through the epidermis produces a chronic granulomatous inflammation.

A literature review revealed that sarcoidosis associated with autoimmune diseases was reported

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**Pleomorphic cutaneous sarcoidosis confined to lesions of vitiligo vulgaris in a patient with type 1 diabetes mellitus**

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