Erythema elevatum diutinum with verrucous carcinoma: A rare association

Sir,

Erythema elevatum diutinum (EED) is a rare chronic skin disease characterized by red, purple and yellowish papules, plaques and nodules distributed acrally and symmetrically over extensor surfaces; and histologically by leukocytoclastic vasculitis.[1] It has been associated with various systemic malignancies; however, its association with cutaneous malignancies is very rare. We report an unusual association of EED with verrucous carcinoma.

A 65-year-old female patient presented with a 2-year history of a gradually progressive fungating mass over the dorsum of right hand with history of itching, oozing and occasional bleeding. She also complained of reddish raised thickened lesions over the dorsae of feet, hands, ears and elbows of 9 years' duration, along with intermittent knee and ankle joint pain. There was no history of respiratory tract infections, gastrointestinal disturbances, photosensitivity, diabetes, hypertension and tuberculosis. She was on dapsone (100 mg daily) since 7 years for the raised lesions. Cutaneous examination revealed a single fungating mass, 2 × 2 inches in size with verrucous surface overlying a hyperpigmented plaque at base of the second and third fingers of right hand [Figure 1]. Multiple, firm, nontender, bilaterally symmetrical hyperpigmented and erythematous plaques were seen over dorsum of hands and feet, elbows, shins and ears. Results of systemic examination were normal. A differential diagnosis of verrucous carcinoma, tuberculosis verrucosa cutis and chromoblastomycosis was considered for the fungating mass. Erythema elevatum diutinum and multicentric reticulohistiocytosis were contemplated in case of the erythematous plaques.

Results of complete hemogram, liver/ renal function tests, chest radiograph, abdominal sonogram and electrocardiogram were normal. Anti streptolysin

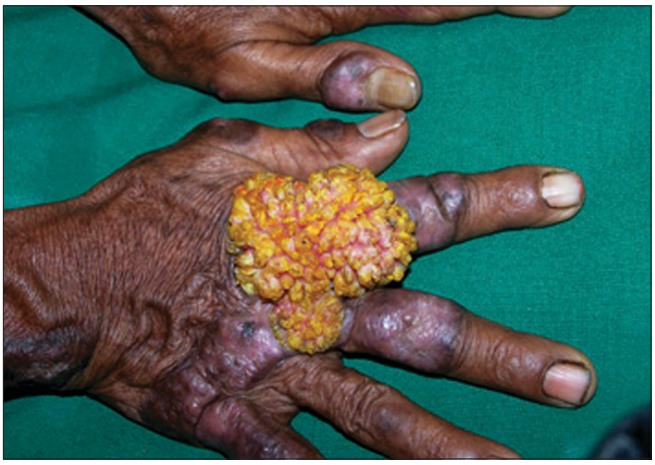

Figure 1: Yellow, verrucous, fungating mass overlying a hyperpigmented plaque at base of second and third fingers of right hand

0 (ASO) titer was normal, with no growth on throat swab. Erythrocyte sedimentation rate (ESR) was raised (60 mm). Rheumatoid factor, anti-nuclear antibody, anti-double stranded DNA antibody and ELISA for HIV were negative. Serum immunoglobulin A (IgA) was 620 mg% (normal, 145-285 mg%); serum IgG and IgM were within normal limits. The result of urine examination was negative for Bence-Jones proteins. Skull x-ray and results of bone-marrow aspirate examination were normal. Biopsy from fungating mass showed hyperkeratosis, papillomatosis, acanthosis, keratin pearls, squamous eddies and bulldozing of epidermis into dermis. Pleomorphic cells with vesicular nucleus and prominent nucleoli were also seen. Z-N stain, Gram stain, potassium hydroxide mount, bacterial and fungal cultures were negative. Biopsy from erythematous plaque on dorsum of right hand revealed leukocytoclastic vasculitis and fibrinoid degeneration with neutrophilic infiltrate and fibrosis in dermis. Hence a final diagnosis of erythema elevatum diutinum with verrucous carcinoma and IgA gammopathy was made. Dapsone therapy (100 mg.) was continued. The mass was excised *en masse,* with histological confirmation of verrucous carcinoma .

Erythema elevatum diutinum (EED) is a rare disease, characterized by crops of chronic and symmetric red-violaceous, red-brown or yellowish papules, plaques or nodules over the extensor surfaces like dorsae of hands, knees, buttocks and Achilles tendon and occasionally over face and ears. The lesions are soft initially but eventually fibrose leaving atrophic scars. The pathogenesis is still unknown; it is supposed to be an immune complex vasculitis.[1] EED may be associated with autoimmune diseases, infections and malignancies like B cell lymphoma,[2] breast carcinoma[3] and can precede hypergammaglobulinemia, IgA monoclonal gammopathy, myelodysplasia and multiple myeloma by many years.[4] Yiannias *et al,* studied 13 EED cases with associated hematologic disease and concluded that IgA gammopathy was most frequently associated.[5] Verrucous carcinoma presents as a verrucous and fungating tumor which ultimately penetrates deep into the tissue. It is commonly seen in the oral cavity, anogenital region, plantar surface, face, back and esophagus. It is associated with longstanding verrucous hyperplasia, chronic ulcers, draining sinuses of hidradenitis suppurativa,[6] genital lichen sclerosus; and uncommonly, with hypertrophic lichen planus.[7] As metastasis from verrucous carcinoma is early and rapid to local lymph nodes and distant sites, an aggressive treatment policy is advocated with wide local excision and oral retinoids.

Association of EED with cutaneous malignancy is very rare and has been reported only once previously, in 1979. Idemori and Arao described a case of EED of 25 years' duration with an easily bleeding papillomatous mass since 1 month over a chronic ulcerating plaque of EED on right great toe. Repeated ulceration and scarring of tissue was proposed to be the cause of squamous cell carcinoma.[8] In our case, a verrucous carcinoma of 2 years' duration developed over a non-ulcerative EED plaque of 9 years' duration. Though the mechanism is unknown, it is thought that chronic cutaneous inflammation causes excessive production of growth factors, which in turn constantly stimulate epithelial cells and cause their malignant transformation.[7]

In conclusion, careful long term follow up of a patient presenting with EED is required for early detection of cancerous growth and progression of IgA paraproteinemia to IgA myeloma.

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