Epidermodysplasia Verruciformis

Pages with reference to book, From 282 To 284

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Epidermodysplasia vcrruciformis is an inherited disease, characterized by widespread and persistent infection with human papillorna virus. A case of generalized pityriasis versicolor like patches. plaques, papules and plane warts who later developed squamous cell carcinoma on the sternum is presented here.

Case Report

A 30 years old barber from Larkana presented with generalized, non-itchy macules and papules, which had first appeared three years ago. A small papule developed on the sternum which gradually increased in size over a period oftwo years. It was painful and bled on trauma. In family history, he was born to normal, consanguinous parents. lie had five normal children. Consanguity has been present for many generations. On examination, hypopigmented macules and patches were seen on the trunk, atms, hands and legs. Scattered hyperpigmented papules and plaques were seen on the face, trunk, with fewer on the arms and legs (Figure 1).

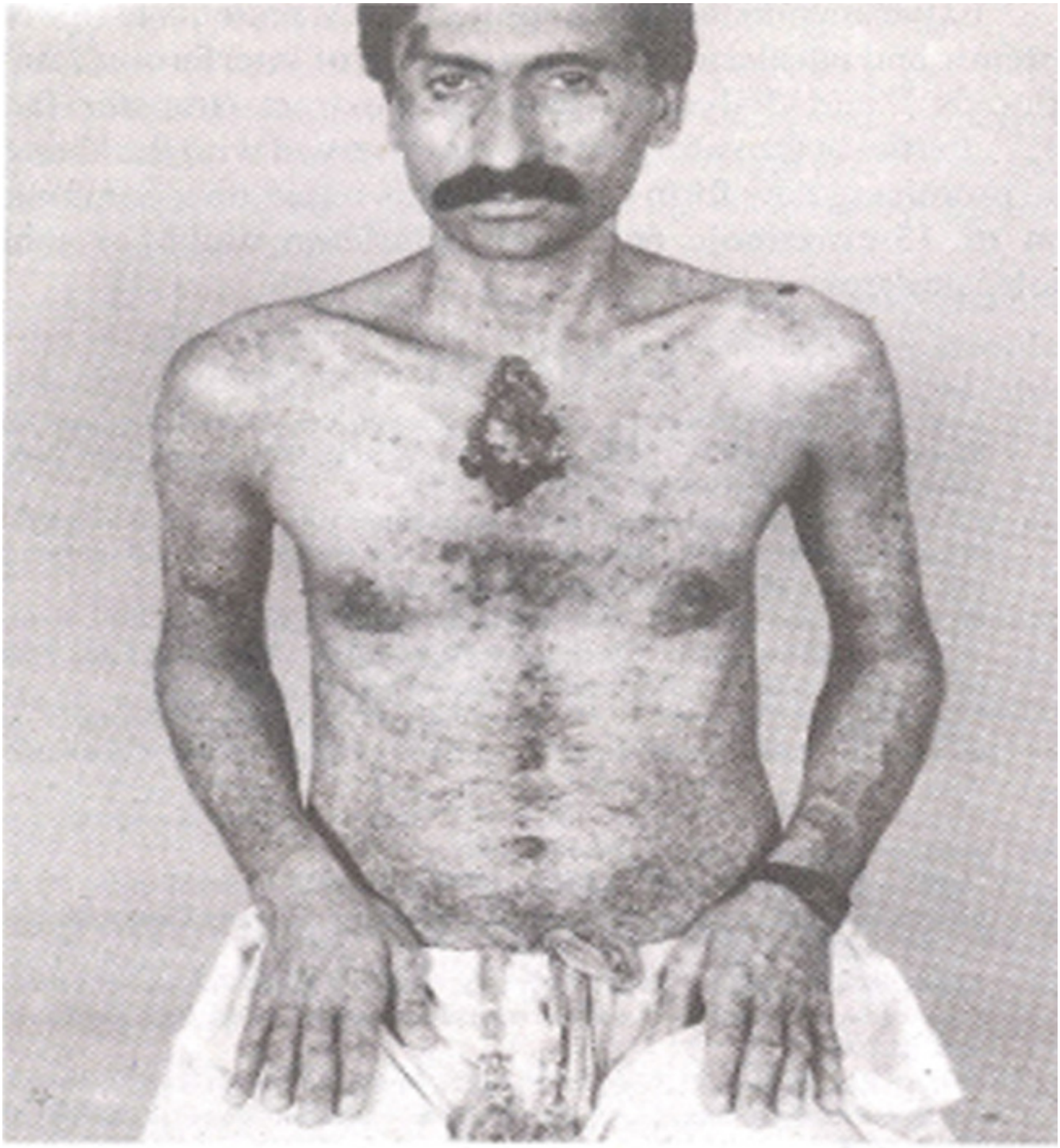

Figure 1. Hypo pigmented macules and patches on the trunk, arms and hands. Scattered hyper pigmented papules and plaques on the face, trunk, arms and hands.

Warty papules were present on the sides of the fingers, palms and soles. A 2"x I' mobile growth, reddish and oozing with well defined, crusted margins was present on the sternum (Figure 2).

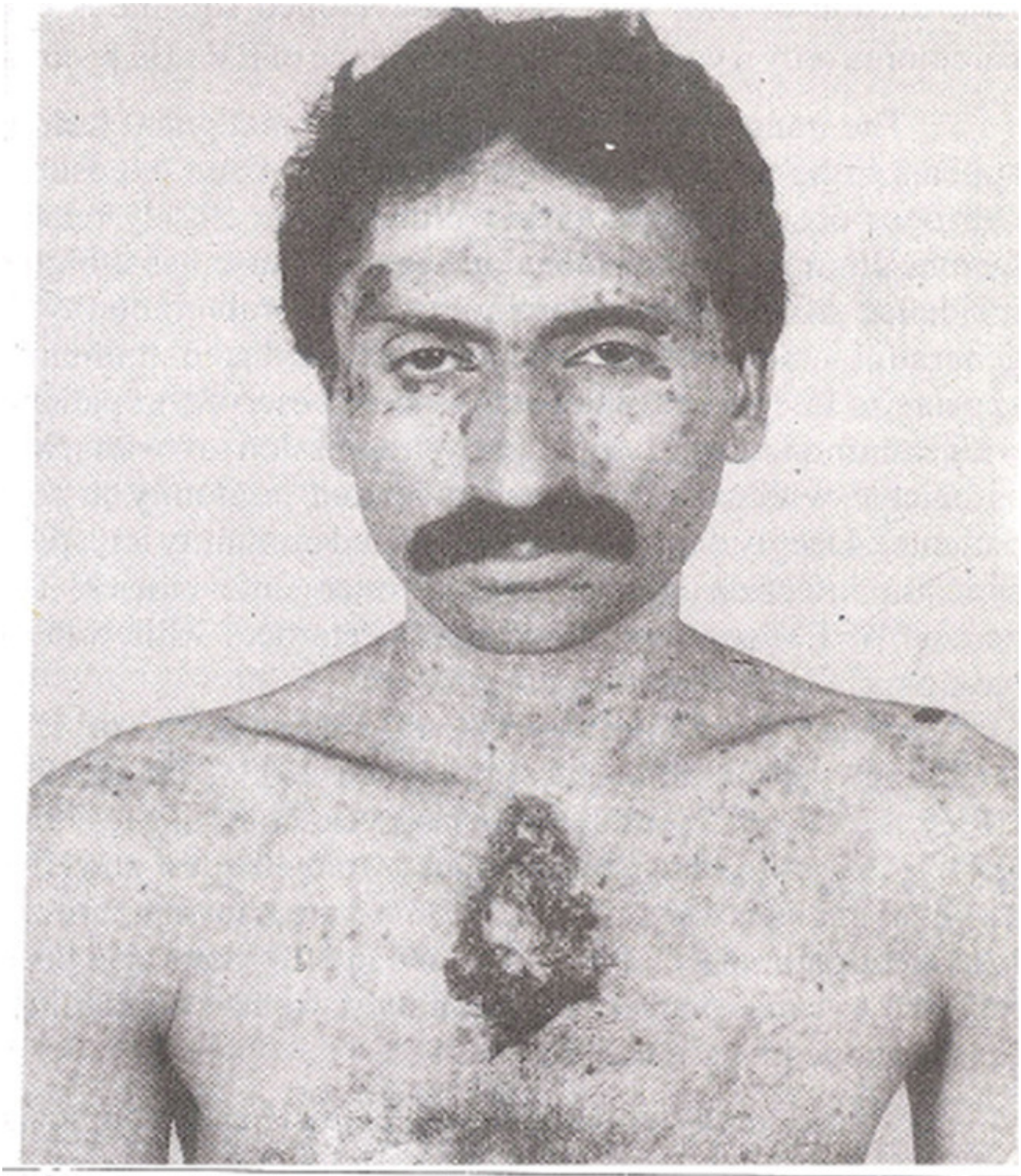

Figure 2. A reddish and oozing growth with well defined, crusted margins on the sternum.

Lymph nodes were not enlarged. Nails and hair were normal. Laboratory investigations, including blood picture. ESR, blood sugar, urine, Lils and x-ray chest were normal. Biopsy of a papule from chest showed irregularly acauthotic epidermis with basket weave orthokeratosis overlying papillornatous dermis. A few superficial keratinocytes showed perinuclear vacuolation. Several

dysplastic epidermal cells were focally present at various levels within the epidermis. The dysplastic cells had hyperchromatic and pleomorphic nuclei surrounded by cytoplasm with bluish hue and occasional vacuoles. Mitoses were not evident. Patch\\ lymphocytic inflammatory infiltrate admixed with pigmented macrophages, was present within the upper dermis. Biopsy of growth on sternum showed a tumour composed of nests and islands ofkeratinizing, atypical squamous epithelial cells infiltrating inflamined and focally hemorrhagic derinal collagen. Individual tumour cells showed mostly enlarged round nuclei with prominent nucleoli. Some nuclei appeared pleoinorphic and hyperchromatic. The tumour cells showed brisk mitotic activity.

Discussion

Epidermodvsplasia verruciforrnis (EV) was first described by Lewandowsky and Lutz in 1922[1]. This disease has no geographic restriction or racial preference, but occurs more commonly in regions where consanguity rate is high[2]. This patient's family history showed the latter characteristics. Epidermodysplasia verruciformis is an autosornal recessive disease[2,3], though an X- linked recessive inheritance[4] has been reported. Clinically, there is widespread and persistent infection with I IPV giving rise to a characteristic combination of plane warts. pityriasis versicolor like lesions and reddish plaques. Typical common warts are often present, especially on the sides of the fingers, palms and soles. Malignant change is common but metastasis is rare, the tumour being locallyinvasive[3] The average age of onset of benign and papular lesions is six years, although the onset may vary from the second to the third decade[1,2]. This patient first developed the lesions at the age of 27. Tumours arising from EV lesions are either benign papillomas, seborrhoeic keratoses or premalignant actinic keratoses, squamous cell carcinomas or carcinomas in situ of the Bowenoid type. Squamous cell carcinoma ultimately develops in one or more lesions in about 20% cases, even before the age oftwenty, especially when the lesions havebeen present for under ten years[3]. In another study, malignant conversion of skin lesions occurred in more than half of the patients who were followed up for twenty to thirty years. It usually started after the age of thirty, mainly in the fourth or carcinoma only a year after the appearance of EV skin lesions. The transformation from benign to malignant lesions appears to be proportional to the amount of sun exposure[2]. Out-door occupations in sunny climates are closely related factors. Immunosuppressions due to any cause has a higher incidence of cutaneous carcinoma. Hunioral immunity is generally intact in EV patients. Cell mediated immunity appears to be markedly depressed, but preserved in patients with common warts[5]. In a study, regression of warts was associated with significant cell mediated immunity in four patients[6]. Deeply depressed cell mediated immunity is responsible for infection with potentially oncogenic viruses. Ten percent of EV patients are mentally retarded; while others have psychological disturbances[1]. Atleast fifteen HPVtypes are characteristic of EV, including types 5, 8. 7, 12, 14, 15, 17, 19-25. 28 and 29. HPV5, 12, 17,20, 38 induce pityriasis versicolor like lesions[7]. HPV 14,20 and 21 have been isolated from plaques[7] and HPV3 and 10 in plane warts of EV[3]. HPV 5,8 are known to prevail in skin carcinomas[1]. HPV 12,14[8],47 and 20[9] have also been reported to cause cancer. Unfortunately, we had no facilities for the above investigations. Pathologically. there is hyperkeratosis and acanthosis. However, the vacuolation in the keratinocytes is more extensive and may affect the upper half to three quarters ofthe maiphigian layer. Viral particles can be identified ultrastructurally in the malphigian and basal cells. There is gradual progression to dysplasia[10] as was observed in this case. There is no specific therapy for EV. Patients should be observed for the development of carcinomas and premalign ant lesions, which should be excised or locally ablated. Avoidance of sun exposure and use of sunscreens is indicated. Etretinate causes clinical improvement in some cases, but the viral infection persists histologically. Relapse occurs when the

treatment is stopped[11]. Failure of etretinate given for six months showed failure in one study[12]. It is not known whether etretinate may p1-event dysplastic or malignant changes. Experimental therapies applied to EV patients included systemic and intralesional administration of interferons[13] and retinoids[14] and dialysable leukocyte extract (transfer factor) [15]. Partial or transitory effect was observed with the above. The promising new form of treatment is based on a combination of 13-crisretinoic acid with interferon alpha or with cholecalciferol analogues[16].

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