

ACNE CORNEA OR OIL-ACNE SIMULATING PITYRIASIS RUBRA PILARIS

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Summary

A case of acne cornea or oil-acne simulating pityriasis rubra pilaris occurring in a 20 years old man is described. The importance of acneiform eruptions resulting after contact with industrial greases and oils as an occupational problem has been stressed. The aetiopathogenesis of acneiform lesions with special emphasis to industrial acne is discussed briefly.

It is now well recognised that many mineral and vegetable oils and tars can produce acneiform lesions at the site of contact^{1,2,3}. This condition is better named as acne cornea, which consists of comedones (black heads), horny follicular and perifollicular papules, pustules and cystic lesions⁴. The sites predominantly involved are exposed areas namely the extensor aspects of arms and forearms, wrists, dorsae of hands and fingers and face. Even trunk and abdomen can be involved if the clothing is soaked with oils. Pigmentation may occur over face. These lesions are easily distinguished clinically from the commonly occurring acne vulgaris by virtue of their characteristic regional distribution, history of application of oils and/or contact with greases, pruritus and occurrence in different age groups. This dermatitis may closely resemble pityriasis rubra pilaris (P. R. P.) and lichen spinulosus. The present paper describes one such case.

Case Report

A male patient, aged 20 years, working in an aluminium factory repor-

ted to the Skin and V. D. Out-patient clinic of Sir Sunderlal Hospital on 17th August 1973 with the complaints of diffuse darkening of skin over face, neck, arms and forearms for one year and itchy, horny eruptions over the extensor aspect of the forearms, dorsum of hands and fingers for six months. He was frequently massaging the skin with mustard oil for the preceding 10 years. During his work at operating machines he frequently comes in contact with greases and cutting oils over his hands. There was no history of atopy either in the family members or in the patient. No past or family history of similar ailment was present. There was no history of drug intake.

Examination revealed diffuse hyperpigmentation all over the body, more marked on the face and other exposed areas. Multiple discrete slightly erythematous yellowishbrown itchy hyperkeratotic follicular papules of 1 to 3mm size, acuminate in shape were situated mainly on the extensor aspects of both forearms, wrists, dorsae of hands and fingers symmetrically. At places some of the follicles were devoid of horny plugs leaving pits behind. There were a few comedones and occasional follicular pustules interspersed among the

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horny follicles (Fig. Page No. 20). Scalp, trunk, genitalia, palms and soles were relatively free from the lesions. Flexural sites were spared. Mucous and mucocutaneous regions were normal. Nail plates were thickened both on the hands and feet. Systemic examination did not reveal any pathology.

The patient was asked to stop oil massage and advised to wear protective clothes while working in the factory and proper cleaning of the body with soap after finishing the work daily. All the follicular lesions disappeared in 3 months.

Discussion

Oil acne is a major industrial occupational dermatosis. Due to rapid expansion of mechanization in industrial and agricultural field, the incidence of this condition is becoming more common in recent years. Most of the industries need large quantities of greases and cutting oils which usually make the surrounding environment dirty. This results in contamination of the body and clothing of the workers with oils and greases. Majority of the population belonging to the low socioeconomic group work in small factories, where there are no adequate facilities available for proper cleaning and most of them are not provided with protective wearing.

The aetiology of acneiform eruptions is multifactorial and the pathogenesis is least understood in many cases. Corticotropin and corticosteroids produce follicular occlusion resulting in acne⁵. Kaidbey and Kligman⁶ postulated that the corticosteroids potentiate the weakly comedogenic effect of sebum by priming the follicles and hence responsible for the production of acne. Testosterone may produce acne in females. Chemicals like iodine, bromine, chlorine and flourine are well known inducers of acneiform lesions. The mechanism of their pathogenesis is not known. These

eruptions differ from acne vulgaris in that there is no age predilection; the eruption may not be confined to the sebaceous areas; no comedone production except with topically applied chlorinated hydrocarbons; the lesions are quicker in onset and likely to be more pustular and inflammatory and often associated with systemic toxicity⁵.

Acneiform lesions may be sometimes seen in infants and usually this is due to transient hormonal dysfunction and thought akin to acne vulgaris. This may occur if some drug which can induce acne passes through placenta or mother's milk to the baby. The topical application of some acnegenic agents (baby oils) to the infant must also be kept in mind⁵.

Many topical medications containing oils and tars can produce acneiform lesions. Ointments are more prone to induce acne than creams and lotions.

Industrial acneiform eruption is a common problem produced by contact with greases and cutting oils. The exact pathogenesis of oil acne is not clear but recent work enlightened some of the facts. The acne reaction may be due to mechanical plugging of follicular canal and chemical irritation⁷. Persons with large follicular openings and who are more hairy are more prone to develop folliculitis from oils. It is worthwhile to note that the bacteria in the oils never produce folliculitis but may be responsible for the secondary infection usually by *Staphylococcus* and *pseudomonas*⁸. It has been reported by Meneghini¹ that the mineral oils exert their keratogenic action at the level of hair follicle mainly by an exogenous route and chlorinated hydrocarbons may exert the action both by exogenous and endogenous route. It is important to note that all persons exposed to industrial greases, oils, etc. do not develop acneiform lesions. So there may be a constitutional factor which predisposes a person to oil acne. This may be associated with

blood groups as was postulated by Rao² who felt that this dermatosis is more common among persons of B blood group. Other constitutional factors may also play a part.

The clinical picture in the patient reported here has much in common with PRP. The presence of multiple, erythematous yellowish-brown, horny acuminate papules with a central keratotic plugging, situated symmetrically on the extensor aspects of extremities, especially on the dorsum of the phalanges resemble the classical exaggerated goose flesh like appearance and the nutmeg crater feel of PRP. The absence of characteristic lesions over the other typical sites of PRP like scalp, neck, trunk, palms and soles; history of application of oil and contact with greases and the difference in histopathological findings enabled us to distinguish this condition (acne cornea) from PRP. Further the lesions disappeared after stopping the application of oil and wearing protective covering during working hours in the factory. We stress that acne cornea is a definite clinical entity and often simulates PRP from which it has to be distinguished.

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TRUE or FALSE?

The term prostaglandins is a misnomer applied to an intriguing family of compounds present in most biological tissues and fluids, and produced by the body from unsaturated fatty acids.

(Answer page No. 27)