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Alcohol intake: a risk factor for psoriasis

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Abstract: Psoriasis is a chronic autoimmune disease which is characterized by scaly plaques over extensor surfaces of the body. Psoriasis is generally thought to be a genetic disease which is triggered by environmental factors including infections and psychological stress and genetic factors. Alcohol is found to be a risk factor for psoriasis as it enhances the production of inflammatory cytokines and cell cycle activators, such as cyclin D1 and Keratinocyte Growth Factor, which could lead to epidermal hyperproliferation. Alcohol misuse induces immune dysfunction resulting in psoriatic lesions exacerbation. Our case report shows increased risk of psoriasis with intake of alcohol.
Keywords: psoriasis, alcohol, autoimmune, risk factor.

INTRODUCTION

Psoriasis is a chronic autoimmune disease which is characterized by scaly plaques. They may vary in severity from small and localized to complete body coverage. Psoriasis is generally thought to be a genetic disease which is triggered by environmental factors including infections and psychological stress and genetic factors[1]. Symptoms often worsen during winter and with certain medications such as beta blockers or NSAIDs. Diagnosis is typically based on the signs and symptoms[2]. The three main histological features of psoriasis are epidermal hyperplasia, dilatation and proliferation of dermal blood vessels and accumulation of inflammatory cells, particularly neutrophils and T lymphocytes in the dermis[3]. HLA-Cw6 is seen in up to 60 % of psoriasis patients compared to 15 % in the general population. Individuals carrying this allele have a 10-20-fold increased risk of developing psoriasis[4]. Alcohol is a serious cause of morbidity and mortality in our society and is implicated in multiple health conditions, including hepatic failure, neurological damage, hematological disorders, and nutritional deficiencies[5]. The majority of cutaneous manifestations associated with excess alcohol use are indirectly mediated through the hepatic dysfunction impairs estrogen and bile salt metabolism, resulting in characteristic findings of spider angiomata, palmar erythema, and pruritus[6,7]. The exact molecular mechanisms by which alcohol triggers or exacerbates psoriasis are yet to be fully elucidated. One theory is that alcohol misuse may induce immune dysfunction with resultant relative immunosuppression[6,7]. Alcohol may also enhance the production of inflammatory cytokines and cell cycle activators, such as cyclin D1 and Keratinocyte Growth Factor, which could lead to epidermal hyperproliferation[6,8,9]. Additionally, increased susceptibility to superficial infections commonly observed in alcoholics, such as those caused by *Streptococcus* and trauma, has also been postulated to have implications in the development of psoriasis[8].

CASE REPORT

A 38-year-old moderately built and well-nourished male presented in Skin OPD, AIMSR, Bathinda with erythematous scaly plaques all over the body since 10 years. Examination revealed erythema, scaling and itching over plaques situated on trunk, back, lower legs and upper arms. General physical and systemic examinations were normal. There was history of alcohol since 12 years. There was no history of any recurrent infections, chronic systemic illness. History of taking immunosuppressive drugs was present.

Routine investigations were done. Hb was 9.3 mg%, TLC 6090, DLC = N52,L43,M02,E03,B00. PBF shows microcytic hypochromic anaemia. ESR & FBS were within normal limits. LFT & RFT were dearranged. Ultrasonography shows grade II fatty liver with cirrhosis. ELISA for HIV - 1 and 2 was negative. Biopsy from lesion shows acanthosis, parakeratosis, hyperkeratosis, elongation of rete ridges and dilatation of dermal vessels.

Patient was given topically corticosteroids in combination with salicylic acid and emollients. Systemically patient was given omega-3 fatty acids, Vitamin D analogue and antihistaminics. Patient was

advised to quit alcohol. Marked reduction in lesions with reference to erythema, scaling and itching showed in 3 weeks' time.

DISCUSSION

In our case report, chronic alcoholic patient having psoriatic lesion all over the body was managed with topical treatment and alcohol withdrawal. Systemic treatment was avoided because of dearranged liver function test and cirrhosis on ultrasonography. Our case report shows correlation of psoriasis with alcohol. This correlation is in accordance with the various studies done in other parts of the world. Extensive evidence demonstrates a link between excessive alcohol consumption and psoriasis. The amount of alcohol consumed and the type of alcoholic beverage have both been shown to confer the most risk for development and/or exacerbation of plaque psoriasis.Furthermore, the same study found that consuming non-light beer appears to be an independent risk factor for developing psoriasis in females[11]. Similarly, in males, excess alcohol consumption (at levels higher then 100g/day) appears to be a risk factor for the development and increased activity of psoriasis[10,12]. Moreover, the misuse of alcohol in patients with psoriasis has been shown to be associated with decreased response to treatment[13]. Risk for psoriasis may vary by type of alcoholic beverage and if certain types of alcoholic beverages have different effects on risk of psoriasis, then this fact would have practical implications for psoriasis prevention and management. One of the studies indicates that non-light beer intake is associated with an increased risk of psoriasis, whereas light beer, wine, and liquor did not increase the risk among women. Specifically, women who drank at least five non-light beers per week were 1.8 times more likely to develop psoriasis compared to women who abstained from alcohol. Lower intake of non-light beer and intake of other types of alcoholic beverages do not appear to influence the risk of developing psoriasis. Women with a high risk of psoriasis may consider avoiding higher intake of non-light beer[14]. We concluded that, alcohol was certainly a one of the risk factor for psoriasis and significant reduction in psoriatic lesions were seen on withdrawal of alcohol.

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