

ASSOCIATION OF PSORIASIS AND ALCOHOLISM: PSYCHODERMATOLOGICAL ISSUE

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SUMMARY

Psoriasis is a chronic, hereditary disease generally characterized by eruption of erythematous, silvery-scaled plaques, predominantly on the elbows, knees, scalp and trunk, affecting between 1-2% of the population worldwide. Psoriasis is a multifactorial disease of unknown etiology. It has been shown that in some patients alcohol abuse has been associated with psoriasis. Chronic alcohol abuse results in the impairment of health-related, social and occupational functioning. Therefore the association of psoriasis and alcoholism represents one of the major psychodermatological issues where a multidisciplinary approach (including dermatologist, psychiatrist, psychologist and others) is crucial for optimal outcome.

Key words: psoriasis – alcoholism - psychodermatology

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INTRODUCTION

Psoriasis is a chronic, recurrent, hereditary dermatosis generally characterized by the symmetrical, well-defined erythematous, silvery-scaled plaques (Figure 1.), predominantly on the extensor surfaces of the extremities. There are several forms of the disease, chronic plaque psoriasis being the most common one. The term "psoriasis" is derived from *psora*, the Greek word designating itch. Although it is not typically regarded as a pruritic disease, several studies have shown that up to 85% of psoriatic patients suffer from generalized pruritus (Gupta 1988, Yosipovitch 2000). The disease affects between 1-2% of the population worldwide, and without gender predilection. It may commence at any age, with peaks during the 20s and again in early 60s. The early onset implies a less stable, more severe clinical course, and is often associated with a positive family history, showing increased association with HLA-Cw6. Kotrulja et al. have reported that the late onset psoriasis shows comorbidity with greater psychopathology than the early onset psoriasis with emphasis on somatization with converse mode of reaction (Kotrulja 2004). Psoriatic patients can experience

considerable emotional distress and social isolation due to visibility of skin lesions (Russo 2004) especially when they are widespread.

Alcohol abuse has been associated with psoriasis. Also alcohol potentially attenuated immune response renders patients more susceptible to bacterial infections and injuries, which in turn can be triggers for psoriasis. Patients with extensive psoriasis who often misuse alcohol show improvement after months of abstention or significant reduction in alcohol intake (Bologna 2008). Patients sometimes ingest alcohol because it is readily available, inexpensive and relieves anxiety.

DISCUSSION

Psoriasis is a multifactorial disease and the etiology is still not completely elucidated. Environmental factors which may exacerbate psoriasis are numerous (Raychaudhuri 2000). The effect of injury (Koebner phenomenon) is a well-established factor. The risk of developing psoriasis, as well as the risk of exacerbation, is increased in patients with chronic subclinical streptococcal infection and HIV infection. A wide variety of medications, including lithium, antimalarials, beta-blockers, and rapid withdrawal of corticosteroids



Figure 1. Typical lesion of psoriasis: silvery-scaled plaques.

can exacerbate psoriasis. Both alcohol and nicotine abuse have been shown to precipitate psoriasis.

Psychodermatology, the new interdisciplinary field in medicine, has developed in the last decades (Buljan 2008). Psychodermatology, as a correlation between psychiatric and dermatological disorders, exists on the scientific fact that the brain and the skin have the same ectodermal origin (Buljan 2005). Mental processes, especially emotional stress, serve as important triggering factors in patients with psoriasis (Griffiths 2001, Koo 2001). Psoriasis has recently been classified into the group of psychosomatic diseases. Emotional stress and specific personal traits may influence the clinical course and severity of psoriasis (Russo 2004). Szepietowski's study has shown that 60% of psoriatic patients reported at least one stressful life event within one month before exacerbation of psoriasis (Szepietowski 2004). War in Croatia in the 1990s was a great trigger for many diseases. During the war increased incidence of psoriasis, posttraumatic stress disorder (PTSD), depression and alcoholism has been noticed (Buljan 2005, Šitum 2003).

Alcohol abuse has been associated with psoriasis. The increasing incidence of alcoholism is reported worldwide, including Croatia. One third of the world population are nondrinkers or they abstinent from alcohol, the second third drinks continuously with control, even always being on the edge of developing alcohol abuse, and the last third drink alcohol with consequences on their health or are alcohol addicts. The prevalence of alcoholism in general population in Croatia is 3-7%. In the past alcohol abuse was mostly connected with male population but in the last decades, when traditional norms are changing, incidence of alcoholism has increased in female population. The relationship between drinking and health is a multidimensional problem and it also affects social functioning and the individual who drinks but also his environment, primary his family (Marušić 2008). Alcohol is one of the most often used addictive substances in the world. This is due to the great availability and low cost and is aided by the liberal attitude of the society towards the alcohol consumption in every-days life (Marušić 2004).

Alcoholism is a multifactorial disorder and affects virtually every organ system, including the skin. Skin diseases such as rosacea, acne, seborrheic dermatitis, hemochromatosis, nummular dermatitis and psoriasis are more common in alcoholics (Marušić 2004). Recent studies have confirmed association of psoriasis and alcoholism, especially in male patients (Marušić 2004, Naldi 1999, Zheng 2004). According to Kirby et al. 13% of patients with psoriasis are alcoholics, while 18% of psoriatic patients had a problem with alcohol abuse (Kirby 2008). According to Naldi et al. there is an association of psoriasis and dose-dependent alcohol abuse in male, but not in female patients (Naldi 1999). Gupta et al. have also shown that a daily ethanol intake of more than 80 g significantly reduces clinical improvement in men, but not in women (Gupta 1993). Another study explored the relationship between genetic and environmental factors actually the association between smoking, alcohol and HLA-DQA1*0201 allele, allele which is presented at significantly higher frequency in the patients with psoriasis (Zheng 2004). Their results showed that alcohol drinkers with HLA-DQA1*0201 genotype were more risk to develop psoriasis compared to controls without this specific genotype. Furthermore close relationship was found in patients drinking over 20 g alcohol per day with no association in patients consuming less than 20 g alcohol per day. Poikolainen et al. have reported that patients who developed psoriasis did not reduce alcohol intake after the onset of their disease, possibly due to emotional distress (Poikolainen 1990). In comparison, control group of patients with other skin diseases significantly decreases their alcohol intake after the onset of the disease. Same study showed that male alcoholic patients with psoriasis are rather therapy-resistant and are more frequently admitted to the hospital. Higgins et al. have compared psoriatic patients and patients with atopic dermatitis, with resulting lack of difference in drinking habits; still over one quarter of psoriatic patients were heavy drinkers (Higgins 1993). Several authors have shown that 22% of patients from alcohol abuse units had psoriasis, in comparison with an estimated prevalence of 2% in general population (Higgins 1992). There was a significant correlation between

the extent of the affected body area and the average alcohol intake. Davidsson et al. have suggested that the number of beers per day correlates well with Psoriasis Disability Index (PDI) (Davidsson 2005). There were no correlations between wine consumption and PDI and Psoriasis Life Stress Inventory (PLSI). It is possible that wine drinkers have different habits, or that tannic acid, the main ingredient of wine, inhibits protein kinase C and epidermal hyperproliferation. Local application of 10% tannic acid had no effect on psoriatic plaques due to poor permeability of the skin.

The real mechanisms how alcohol conducts psoriasis have been proposed. The major histopathological feature of psoriasis is marked epidermal hyperproliferation resulting with acanthosis and greatly elongated, narrow rete pegs. Epidermis is covered by a parakeratotic layer of keratin which contains small aggregations of nuclear debris from inflammatory cells. Dermal papillae are edematous and expanded, with prominent dilated capillaries. There is a variable chronic inflammatory infiltrate in the upper dermis, including both CD8⁺ and CD4⁺ lymphocytes, which are present in different stages of psoriatic plaques (Zhang 2002). Cytokines such as interferon γ , tumor necrosis factor α , interleukin 8 and transforming growth factor α are present in psoriatic plaques. In vitro studies have shown that ethanol can inhibit or enhance protein kinase C (PKC), isoenzyme important for regulation of cell proliferation, differentiation, cytokine production and adhesion molecule expression (Zheng 2004). Ethanol also increases activity of transcription factors for $\alpha 5$ integrin, keratinocyte growth factor receptor (KGFR) and cyclin D1 (Farkas 2003). Some authors have reported that increased concentration of $\alpha 5$ integrin in non-lesional skin in psoriatic patients resulted in keratinocytes hyperproliferation (Bata-Csorgo 1998).

Several authors, however, failed to establish correlation between psoriasis and alcoholism (Behnam 2005, Delaney 1974, Grunnet 1974). Contrary results of the studies probably arise from the unreliable anamnestic data regarding alcohol abuse, inadequate alcohol quantification and undetermined definition of alcoholism.

Little is known about mortality among patients with psoriasis. Methotrexate treatment can lead to liver disease which is even more strengthened by alcohol intake. Recent study of Poikolainen et al. has shown increased mortality in psoriatic patients with chronic alcoholism as a result of alcohol-related psychosis and liver disease (Poikolainen 1990). Furthermore, suicide is more common in alcoholics.

Some authors have suggested that the assessment of alcohol and nicotine use should be obligatory when taking anamnestic data from patients with psoriasis. Patients, in which it seems necessary, should be offered inclusion in local alcoholism rehabilitation units (Kirby 2008, Zimmerman 1999). Psoriasis often improves after months of alcohol and nicotine abstention. Relaxation techniques and exercise may prolong time of remission and reduce medication use.

CONCLUSION

Both psoriasis and alcoholism have a substantial physical, psychological and social impact on patients' lives which may be aggravated when occurring in association. Therefore the association of psoriasis and alcoholism represents one of the major psychodermatological issues where multidisciplinary approach (including dermatologist, psychiatrist, psychologist and others) is crucial for the optimal outcome.

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