

Psoriasis and Coeliac Disease: Is There Any Relationship?

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Coeliac disease (CD) is a common chronic immune-mediated gluten-dependent enteropathy with a prevalence of 1 in 104 individuals in Iran (1). CD is characterized by intestinal malabsorption and subtotal or total atrophy of intestinal villi, which improves with a gluten-free diet (GFD) (2). Psoriasis is a chronic, relapsing dermatosis characterized by scaling, erythema and, to a lesser extent, pustulation. Immune mechanisms play an important role in the pathogenesis of psoriasis (3).

Structural and functional abnormalities in the gastrointestinal tract, such as degenerative and dystrophic changes in epithelial cells and inflammatory stromal infiltration of the gastric and duodenal mucosa, have been identified in psoriatic patients (4, 5). Studies have demonstrated an association between CD and psoriasis (6–9) and an improvement in skin lesions after 3–6 months of GFD, without other pharmacological approaches (10, 11). However, the relationship between CD and psoriasis is unknown due to the paucity of studies, which are mostly confined to case series reporting coincidence of the two conditions. The aim of this study was to estimate the prevalence of CD in Iranian psoriatic patients.

MATERIAL AND PATIENTS

A total of 328 consecutive psoriatic patients attending the Dermatology Clinic of Razi Hospital, Tehran, Iran, were enrolled in this study. Detailed information was obtained about the patients' status of skin disease, previous and current therapies for psoriasis, and history of gastrointestinal symptoms, including flatulence, epigastric pain, diarrhoea, constipation, dyspepsia, and vomiting. The severity of psoriasis was evaluated using the Psoriasis Area and Severity Index (PASI), which determines the affected body surface area, together with erythema, infiltration, and scaling.

Laboratory tests for screening of CD, including immunoglobulin (Ig)A endomysial antibody (EMA) and IgA-tissue-transglutaminase antibody (tTG), were performed for all patients.

Patients with at least one positive serological marker underwent upper endoscopy and duodenal biopsy. The biopsy species were evaluated by a pathologist (blinded to the serological test results) according to modified Marsh classification. 0: normal

Table I. Characteristics of 328 psoriatic patients

	Psoriasis vulgaris	Other types ^a
Patients, <i>n</i>	253	75
Age, years, mean $\pm$ SD	33.6 $\pm$ 16.27	34.2 $\pm$ 12.6
Male/female ratio, <i>n</i>	12/7	7/2
PASI score	8.11 $\pm$ 1.27	14.2 $\pm$ 1.5
Duration of psoriasis years, mean $\pm$ SD	4.12 $\pm$ 1.2	3.15 $\pm$ 1.6

^aguttate, flexural, palmar, scalp, pustular

PASI: Psoriasis Area and Severity Index; SD: standard deviation.

mucosal structure without significant lymphocytic infiltration; I: lymphocytic enteritis (more than 30 lymphocytes/100 epithelial cells); II: lymphocytic enteritis and crypt hyperplasia; IIIA: partial villous atrophy; IIIB: subtotal villous atrophy and IIIC: total atrophy. The presence of at least one positive serology test plus Marsh 3 in duodenal pathology was considered as CD.

RESULTS

Table I summarizes the demographic details and psoriasis-related characteristics of the patients. Seventy-seven percent of the patients had psoriasis vulgaris (plaque type) and the remainder had other types of psoriasis, including guttate, flexural, psoriasis of scalp, palmar psoriasis and pustular psoriasis. There were no gastrointestinal symptoms in 78.1% of the patients, but the remainder reported dyspepsia (16%), abdominal pain (9%), diarrhoea (4%), constipation (5%), flatulence (2.3%) and vomiting (1%). A positive history of psoriasis was present in the first-degree relatives of 16.2% of patients, but none of them had a family history of CD.

Three psoriatic patients (2 men, 1 woman; mean age 28.3 years) had an increased level of tTG antibody and two also had positive endomysial antibody. These three patients underwent upper endoscopy and biopsy for the confirmation of CD diagnosis (Table II). Only one of them was confirmed to have CD. All three patients with positive serology were strictly put on a GFD. No improvement in skin lesions was seen after 6 months of follow-up.

Table II. Characteristics of patients with positive IgA-tissue-transglutaminase antibody test (tTG)

Age	Gender	tTG	EMA	Duration	PASI	Psoriasis type	GI symptoms	Endoscopy	Marsh
30	Female	+	+	>5 years	<12	Plaque type	–	Crypt hyperplasia	II
18	Male	+	+	<5 years	<12	Plaque type	Flatulence, epigastric pain	Villous atrophy	IIIC
37	Male	+	–	>5 years	>12	Pustular	–	Normal	Normal

PASI: Psoriasis Area and Severity Index; EMA: anti-endomysial antibody; GI: gastrointestinal; Marsh classification: II: lymphocytic enteritis and crypt hyperplasia; IIIA: partial villous atrophy; IIIB: subtotal villous atrophy and IIIC: total atrophy.

DISCUSSION

As immunological mechanisms are proposed for both psoriasis and CD, there are studies suggesting the role of gluten sensitivity in psoriasis (8, 9). Ojetti et al. (6) reported a high prevalence of CD among patients with psoriasis (4.34%). In our study, out of 328 psoriatic patients, only 3 showed elevated levels of tTG or EMA. Villous atrophy was seen just in one of them, thus the prevalence of CD in psoriatic patients has been estimated to be approximately 0.3%.

The prevalence of CD in the adult Iranian general population has been reported previously as approximately 1% (1). According to the current study the prevalence of CD in psoriatic patients is not more than that in the general population of Iran.

In conclusion, we did not find any association between psoriasis and CD. A GFD in patients affected by both diseases had no effect on the skin lesions.

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