jjogastroenterology.org

Japanese Journal of Gastroenterology

ISSN 2832-4870

DIRECTIVE PUBLICATIONS

*Case Report*

# Dermatological Manifestation in Celiac Disease – An Uncommon Presentation.

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## Abstract

**Introduction:** Celiac disease has immune based autoimmune disease which is noticed in genetically predisposed persons and is due to gluten allergy. It was initially thought that it is disease of children and presents with typical or classical symptoms associated with gastro-intestinal tract like pain abdomen, diarrhea or constipation. Now, it has been proven that it is commonly seen in adult age also and in half of cases presents with atypical or unclassical symptoms which are mainly due to nutrients or minerals deficiency. Thus, patients can have neurological, psychiatric, dental, reproductive or dermatologic problems. ----- is seen in many cases but in association with celiac disease is rare and very few cases are reported in literature.

**Case Report:** We report a case of fourty year-old female who presented with pain abdomen and dyspepsia symptoms and on detailed evaluation was found to be having increased serum IgATTG antibody level to 120 I.U./ml. The upper gastro-intestinal endoscopy revealed moderate scalloping of duodenal folds and duodenal biopsy on histopathological examination proved Marsh grade 2 changes. She was started on strict gluten restriction diet and became asymptomatic within six months of gluten restricted diet and her serum IgATTG antibody level also normalized. After a gap of two years, despite on strict gluten restricted diet, she developed atopic dermatitis changes in bilateral hands. She has been on medications by dermatologist but without any substantial relief. Our case is different, in a sense that it was diagnosed two years later after diagnosis of celiac disease, that to on strict gluten restricted diet which led to resolution of primary symptoms of pain abdomen and dyspepsia.

**Conclusion:** There is a significant association between atopic dermatitis and celiac disease. This association emphasizes the need for timely screening of gastrointestinal morbidities in individuals with atopic dermatitis to prevent long-term complications.

**Keywords:** Celiac disease, Atopic dermatitis, Dermatitis herpetiformis, Gluten, Serum IgATTG antibody, Endoscopy.

## INTRODUCTION

Celiac disease (CD)has immune based autoimmune disease which is seen in genetically predisposed persons and is due to gluten allergy [1-3]. The global prevalence of CD has been estimated at around 1.7% based on positive serology and 0.7% based on biopsy-confirmed CeD [4]. It was initially thought that it is disease of children and presents with typical or classical symptoms associated with gastro-intestinal tract like pain abdomen, diarrhea or constipation. Now, it has been proven that it is commonly seen in adult age also and in half of cases presents with atypical or unclassical symptoms which are mainly due to nutrients or minerals deficiency. Thus, patients can have neurological, psychiatric, dental, dermatologic or reproductive problems. There is a documented association between atopic dermatitis (AD) and CD, with several studies indicating that people with AD have a higher prevalence of CD, and vice versa. The prevalence of AD in adult celiac disease patients is approximately 1.6% to 3.8% [5], with some studies suggesting a higher frequency and increased risk of developing celiac disease in individuals with AD. This connection is thought to be mediated by immune system interactions between the gut and skin. Both conditions are linked to immune system dysregulation, which may explain the connection between gut inflammation (in CD) and skin inflammation (in AD). CD is not a guaranteed cause of AD, a positive response to a gluten-free diet is sometimes experienced by coeliac patients with atopic dermatitis. The increased prevalence suggests that physicians should consider screening for CD in patients with AD, particularly when other symptoms are present or the condition is not responding to typical treatment.

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**Email:** drparveenmalhotra@yahoo.com.
**Received:** 20-Nov-2025, Manuscript No. JJOGASTRO - 5264 **; Editor Assigned:** 22-Nov-2025 **; Reviewed:** 12-Dec-2025, QC No. JJOGASTRO - 5264 **;**
**Published:** 29-Dec-2025. **DOI:** 10.52338/jjogastro.2025.5264.
**Citation:** **Parveen Malhotra**. Dermatological Manifestation in Celiac Disease – An Uncommon Presentation. Japanese Journal of Gastroenterology. 2025 December; 14 (1). doi: 10.52338/jjogastro.2025.5264.

## CASE REPORT

We report a case of fourty year-old female who presented with pain abdomen and dyspepsia symptoms and on detailed evaluation was found to be having increased serum IgATTG antibody level to 120 I.U./ml. The upper gastro-intestinal endoscopy revealed moderate scalloping of duodenal folds and duodenal biopsy on histopathological examination proved Marsh grade 2 changes. The general physical and systemic examination was normal. All her biochemical tests including hemogram, liver & renal function tests, blood sugar, thyroid profile was normal. She was started on strict gluten restriction diet and became asymptomatic within six months of gluten restricted diet and her serum IgATTG antibody level also normalized. After a gap of two years, despite on strict gluten restricted diet, she developed atopic dermatitis changes in bilateral hands. She has been on medications by dermatologist for last one year but without any substantial relief.

**Figure 1.** Showing Atopic Dermatitis in Bilateral Hands


## DISCUSSION

Celiac Disease is an autoimmune disorder where consuming gluten (found in wheat, barley, and rye) triggers an immune response that damages the small intestine's villi. The symptoms include chronic abdominal pain, diarrhea, fatigue, weight loss, growth failure in children, and skin rashes. The diagnosis involves blood serum IgATTG antibody test and an endoscopic biopsy to confirm damage to the small intestine. Dermatological manifestations in celiac disease are common and most notably include dermatitis herpetiformis (DH), an intensely itchy, blistering rash. Other skin conditions associated with celiac disease include chronic urticaria, psoriasis, vitiligo, eczema, alopecia areata, erythema nodosum and aphthous stomatitis [6]. Approximately

5% of patients with idiopathic aphthous stomatitis have been found to have positive endomysial antibody tests and celiac disease on small bowel biopsy. Stomatitis in such patients clears on a gluten-free diet [7]. Patients with alopecia areata have also been reported to respond to gluten restriction. Fessatou et al reported 2 patients with alopecia areata who were endomysial antibody positive and had celiac disease on small bowel biopsy. Both patients regrew hair with a gluten-free diet. It is believed that 1%–2% of patients with alopecia areata are endomysial antibody positive and have celiac disease. However, not all patients with celiac disease and alopecia areata regrow their hair with gluten restriction [8,9]. A cohort study conducted in Sweden collected data from 43,300 CD patients over 45 years and reported an increased risk of eczema, psoriasis, urticaria, vitiligo, and alopecia areata [10]. Additionally, another study in India found atopic dermatitis to be the most common skin disorder among children with CD [11]. Guy etal observed a significant association between atopic dermatitis and celiac disease [12]. The release of IgE and other immunoglobulins in the submucosa of the small intestine after gluten exposure can lead to the development of urticaria and atopic dermatitis [13]. Our case is different, in a sense that it was diagnosed two years later after diagnosis of celiac disease, that to on strict gluten restricted diet which led to resolution of primary symptoms of pain abdomen and dyspepsia.

## CONCLUSION

Cutaneous complications are prevalent in celiac disease patients and highlight the need for systematic dermatological evaluations in them to ensure timely diagnosis and management of skin-related complications.

### Conflict of Interest

No conflict of interest and prior permission from patient and relatives was taken before publishing the case report.

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