



## **Case Report on Celiac Disease**

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**Abstract**

*Celiac disease is a prevalent autoimmune condition that affects gluten-sensitive people. We provide a case study of a 25-year-old female who reported with bloating, itching, weight loss, and exhaustion. The patient began with antihistamine and anti-leukotriene medications. The patient was discovered to have gallbladder stones and underwent cholecystectomy; celiac disease was first misdiagnosed, and the woman lost her gallbladder. The patient was put on a gluten-free diet, which resulted in a dramatic improvement in her symptoms as well as normalization of her test values. This case report emphasises the need of examining celiac disease in the differential diagnosis of persons experiencing weight loss and exhaustion.*

*Key Words: Celiac Disease, Diagnosis, Gluten free diet, bloating, antihistamine, gall bladder stone.*

**Introduction**

Celiac disease is an autoimmune disorder that affects the small intestine in response to the consumption of gluten -containing foods. Celiac disease is triggered by gluten, a protein found in wheat, barley, and rye. When a person with celiac disease consumes gluten, their immune system mistakenly attacks the lining of the small intestine. Damaged villi make it nearly impossible for the body to absorb nutrients, leading to malnourishment and a host of other issues. (1)

CD is common, affecting at least 1% of the population. Upwards of 83% of people with CD are undiagnosed. The genes known to be associated with CD are HLA-DQ2 and HLA-DQ8. When a first-degree family member has CD, the probability of developing it increases significantly. CD can develop at any age. CD affects individuals of all ethnicities. (2) CD is a unique autoimmune disease in that its key genetic elements (human leukocyte antigen HLA-DQ2 and HLA-DQ8), the auto-antigen involved (tissue transglutaminase (tTG)) and the environmental trigger (gluten) are all well defined. (3) The symptoms of celiac disease can range from mild to severe. They can change over time, and they vary from person to person. Some people have no symptoms or only experience them later in life. A person may not know that they have celiac disease until they develop a nutrient deficiency or anemia. (4)

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Symptoms of celiac disease that are digestive can include weight loss, fatigue, depression or anxiety, joint pain, mouth sores, a rash called dermatitis herpetiformis, nerve damage in the extremities called peripheral neuropathy which can cause tingling in the leg and feet (4). Diagnosis is supported by a positive tissue transglutaminase serologic test but, in general, should be confirmed by a small bowel biopsy showing the characteristic histology associated with celiac disease. The presence of human leukocyte antigen alleles DQ2, D8 or both is essential for the development of celiac disease and can be useful genetic test in select instances. (5). Intestinal cholecystokinin secretion and gall bladder emptying in response to a fatty meal are impaired before celiac patient start the gluten free diet (GFD) (11)

### **Approach to the Diagnosis of the Celiac Disease:**

Patient suspected celiac disease, then go for

A) IgA deficiency test if test comes negative then patient can be or can not be suspicious for celiac disease, if not suspicious then celiac disease unlikely consider other diagnosis. If yes and/or IgA deficiency test is positive then refer for small bowel biopsy.

B) IgA tTG positive and total IgA normal then refer for small bowel biopsy.

C) IgA tTG and total IgA normal, patient is suspicious for celiac disease, if suspicious then refer for small bowel biopsy, if not suspicious then celiac disease unlikely consider other diagnosis.

Once a diagnosis has been confirmed through a biopsy to be celiac disease, the patient is instructed to begin following the gluten-free diet. This can often be difficult at first because so many foods contain gluten. However, through support and guidance from experienced celiac patients and a skilled dietitian, many newly diagnosed patients learn that the gluten-free diet requires some creativity and planning, but that great-tasting food isn't out of reach. (11)

### **Case:**

A 25-year old female presented with a history of abdominal pain, bloating and intermittent diarrhea for several months. She also reported a chronic rash that appeared after consuming certain foods. The patient had cholecystectomy (removal of gall bladder) performed due to episodes of cholecystitis.

On physical examination, the patient appeared pale and thin with a body mass index (BMI) of 19.2. She had rash on elbows knees and buttocks, scalp and face that appeared to be urticarial in nature. The abdomen was soft, non-tender, and non-distended.

Laboratory investigations showed anemia with hemoglobin level of 10.8g/dl and a mean corpuscular volume (MCV) of 74 fL. Liver function test showed slight increase in D. bilirubin. The total serum IgE level was within normal limits.

Based on the patient's symptoms and finding a diagnosis of celiac disease was suspected abdominal USG report showed absence of gall bladder (cholecystectomy) and excessive bowel gases noted all over abdomen. The patient complains for back pain and epigastric pain and patient labeled as urticaria.

The patient was started on gluten free diet and advised to maintain food diary to avoid other food that triggered her rash. She was also started on antihistamine and leukotriene receptors and anti-allergy lotion to apply. The patient was educated about the importance of strict adherence to the gluten free diet to prevent long-term complications of celiac disease. The patient's symptoms improved significantly within weeks of starting the gluten free diet. The patient's rash also improved and she reported no further episodes of abdominal pain or diarrhea.

TABLE 1

SR.NO	FOLLOW UP	DRUG NAME	FREQUENCY	DURATION
1	1	TAB. BILASTINE 20mg TAB. LEVOCET ALL SUTH LOTION (change all the capital letters)	1-0-1 0-0-1 LOCAL APPLICATION	21 DAYS
2.	2.	TAB BILASTINE 20mg TAB. ALBENDAZOLE ATARAX LOTION	1-0-1 STAT LOCAL APPLICATION	21 DAYS
3	3.	TAB.BILASTINE 20 Mg TAB.MONTELUKAST 10mg TAB.THYRONORM 25mg	2TAB-0-02TAB 0-0-1 1-0-0	21DAYS

		ATARAX LOTION	LOCAL APPLICATION	
4	4	TAB.BILASTINE 20 Mg ADV:TO MAINTAIN FOOD DIARY	2TAB-0-2TAB	21DAYS
5	5	TAB.BILASTINE 20mg TAB MONTELUKAST 10mg ATARAX LOTION	1TAB-0-2TAB 0-0-1	21 DAYS
6	6	TAB.MONTELUKAST 10mg	0-0-1TAB	21DAYS
7	7	TAB BILASTINE 10mg CALAMINE LOTION	0-0-1TAB	21DAYS
8	8	Tab. Levocetizine 5mg Tab.Montelukast 10mg Tab.Bilastine 20mg Kivical Lotionon	0-0-1tab 0-0-1tab Sos Sos	21 Days
9	9	TAB .BILASTINE 20 Mg TAB.LEVOCET 5mg CALAMINE LOTION	1TAB-0-0 0-0-1TAB LOCAL APPLICATION	21DAYS
10	10	TAB BILASTINE 20mg	0-0-1TAB 0-0-1 TAB	30 DAYS ALTERNAT E NIGHT FOR 30DAYS
11	11	TAB.BILASTINE 20mg	0-0-1TAB	ALTERNAT E NIGHT FOR ONE MONTH

## Discussion

Gluten intolerance disease is an autoimmune disorder in which gluten (a protein found in wheat, barley, and rye) cause an immune response that damages the small intestine lining. This can result in symptoms like abdominal pain, diarrhea, and weight loss, as well as long term complications like malnutrition and an increased risk of certain cancers. This case presents celiac disease but initially which was diagnosed as a urticaria, which is seen in few cases. Patients with chronic urticaria have a greater incidence of antithyroid antibodies than the general population, according to research done in 1983 by Leznoff et al. (12). This finding offered the first concrete proof that people who suffer from chronic urticaria might also have an autoimmune condition. This theory is further strengthened by the finding that people with chronic urticaria also have a greater frequency of CD, another immunological illness. As patient as anemic with low HB.

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Anemia affects people with CD often, with an incidence of between 5% and 60%. The more prevalent type of anemia in CD patients is iron-deficiency anemia, which can be brought on by a number of different processes. The patient with unexplained anemia should be evaluated for CD (13). Other lab reports like stool examination, urine examination was normal. Patient presented with chief complains of itching on body and scalp, treatment started with antihistaminic tab bilastine 20 mg bd, Tab levocetirizine 5 mg od and allsuth lotion for LA. Patient came forseconf follow up after 21 days and continued with lab bilastine and atarax lotion for LA abd Albendazole 400 mg stat dose was given. Albendazole is an anti-plastic medication and is not a recognised treatment for celiac disease. on 3<sup>rd</sup> follow up lab reports showed increase in TSH, so patient started with Tab. Thyronorm 25 mg od before breakfast and Tab. Bilastine dose increased for 21 days. On 4<sup>th</sup> follow up patient was stable on Tab Bilastine 20 mg so continued only with Tab. Bilastine and ask patient to maintain food diary. On 5<sup>th</sup> follow up patient came with complains itching so Tab. Bilastine morning od dose step down to 1tab and added montelukast 10 mg and atarax lotion for local application. On 6<sup>th</sup> follow up Tab. montelukast od only continued and discontinued with other treatment for 21 days. On 7<sup>th</sup> follow up patient shifted to Tab bilastine 1 tab od and calamine lotion, for 21 days and discontinued montelukast. On 8<sup>th</sup> follow up patient continued with Tab. Levocetirizine 5 mg od, Tab montelukast 10 mg od and tab bilastine on soso and kivial sos for 21 days. On 9<sup>th</sup> follow up patient is complaining chest pain and back pain on deep breathing. Two symptoms of celiac disease that are less frequently detected are chest pain and backpain. A case of 62-year-old man with celiac disease who presented with excruciating back pain and chest pain was recently detailed in a research that was published in the Journal of Medical Case Reports. The patient's symptoms significantly subside after 4 month gluten free diet. The study stresses the significance of taking celiac disease into account as a potential cause of these symptoms in patients who do not respond to conventional therapy and claims that back pain and chest discomfort may be under recognized sign of celiac disease. Patient may experience success with gluten free diet as a kind of treatment. (14). On 10<sup>th</sup> follow up patient continued with Tab bilastine 20 mg od dose for 21 days and after that patient shifted to alternate od dose at night for 30 days. On 11<sup>th</sup> follow up patient continued with alternate od dose at night for 30 days. There are no episodes of urticaria since 4-5 months, and patient is symptom free with gluten diet.

## **Conclusion:**

Celiac disease can present with a wide range of symptoms, including urticaria, anemia, and gastrointestinal

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symptoms .In this case, the patient was initially misdiagnosed with urticaria and had her gall bladder removed.however, careful evaluation and serological testing led to correct diagnosed of celiac disease, and the patient’s symptoms improve significantly with glutent -free diet .Early diagnosis and treatment of celiac disease can prevent long term complications and improve the patient’s quality of life .

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