

Case report: Atypical presentation of Celiac Disease

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Abstract—Celiac disease is frequently associated with other auto-immune disorders but has never been reported in association with alopecia areata in adults. We report the association of celiac disease and alopecia areata in a 44 years old female. Biopsy revealed mild villous atrophy, crypt hyperplasia and marked intraepithelial lymphocytosis, serum Endomysial antibody was markedly elevated. Finally, she was diagnosed as having CD, and a gluten-free diet was advised. At a 11 months follow-up, revealed complete hair growth and serological marker returned to normal range.

Index Terms— Alopecia areata, Atypical presentation, Celiac disease, Gluten sensitivity, hashimoto's thyroiditis, Hypothyroidism.

1 INTRODUCTION

Celiac disease (CD) is an immune-mediated enteropathy that affects genetically susceptible individuals following exposure to gluten-containing diets such as wheat, rye, and barley. Recent studies have estimated a prevalence to be approximately 1% in different parts of the world. [1] but there are emerging data to suggest it may actually be increasing in some developed countries.

The clinical manifestations of CD are highly variable individuals may present gastrointestinal symptoms, non-gastrointestinal features or no signs of symptoms. The classical presentation of CD is characterized by diarrhea, abdominal pain, distention, constipation and weight loss. [2] Atypical forms are also common and therefore often unsuspected. The diagnosis of CD should be based on a combination of findings from histology, serologic testing and the clinical picture. [1][10] Whilst CD was traditionally considered a childhood disease, most patients are diagnosed in adulthood. [3] The diagnosis of CD in adulthood is emerging and patients often present with non-classical extra-intestinal manifestations. Thus, making a diagnosis is challenging. A strict lifelong gluten-free diet is the mainstay of treatment for CD, it re-establishes homeostasis and prevents long-term complications.[11]

Alopecia areata (AA) is a genetic and immune-mediated disease that targets anagen hair follicles affecting mostly the hair on the scalp. It affects 1–2% of humans and occurs in people of all ages (4). AA is rare extra-intestinal manifestation of CD. This report describes the correlation of CD and other autoimmune diseases.

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2 CASE

A 44-years-old Saudi female was presented to the family medicine clinic of Security Forces Hospital in Saudi Arabia for an evaluation of alopecia areata.

History of alopecia shows that its onset was noticed 5 months ago, she suddenly developed an asymptomatic non-resolving patchy region of hair loss on the scalp at the periphery. She is known to have hypothyroidism for 9 years on levothyroxine, past history was negative for gastrointestinal disease except for mild dyspepsia, she never complained of diarrhea. She denied any fever, weight loss, loss of appetite or other constitutional symptoms. She weighted 82.75 kg (body mass index 32.86). There was no history of similar illness in family members. She is married with children living in Riyadh, she works as a lecturer in a university.

On examination, there was a well-defined annular patch of non-scarring alopecia, sizing approximately 2 cm × 3 cm present at the parietal region of the scalp, the area was smooth with no associated skin changes.

Systemic examination was unremarkable.

Laboratory studies revealed class IgA endomysial antibodies: 163.14 Units (Positive if > 30), values of CBC and HbA1C were normal. ESR: 45 mm/hr (Normal range 0-20)

Serology for associated autoimmunity: Serum TSH: 21.76 μ UI/ml (Normal: 0.27-4.20), FT4: 16.7 pmol/l (Normal: 12-22), Anti-TPO antibody: 312 IU/ml (Normal <34).

Because celiac disease may be associated with other autoimmune diseases and based on serological results endoscopy was ordered.

Endoscopy results showed, esophagus: small hiatal hernia, mild reflux and esophagitis. In the Stomach: Cardio-fundal gastritis, and no gross abnormality was seen in the duodenum. Specimen submitted from the antrum, body, 1st and 2nd part of the duodenum.

Pathology reports that there was no significant pathology in the gastric antrum and body biopsy whereas in the duodenum specimen there was a mild villous atrophy, crypt hyperplasia and marked intraepithelial lymphocytosis, consistent with celiac disease (MARSH classification, type 3A).

Thus, confirming the diagnosis of CD. The patient was started

on a gluten-free diet, labs were repeated after 11 months, Endomysial Antibody IgA level 12.83 reference (<30), the patient reported that she noticed almost complete resolution of alopecia areata. The patient continues to be under observation, while still on a gluten-free diet.

3 Discussion

Diagnosis of CD is challenging because of only a few patients present with the classic symptoms that are related to malabsorption; a higher number of patients present with non-diarrhea-predominant presentations.

To our knowledge, this is the first reported case highlighting the association between CD and other autoimmune diseases including AA and Hashimoto's thyroiditis in adults, there are other published studies that show the association in children. [5], [9]

Studies showed that there is an increased prevalence of immune-based disorders among patients with CD. The pathogenesis of co-existent autoimmune AA and CD is still poorly understood, but these conditions share similar HLA haplotypes and are associated with the gene encoding cytotoxic T-lymphocyte-associated antigen-4. [6]

After the patient was managed with gluten-free diet, complete regrowth of the hair occurred within a few months. The positive effects of gluten-free diet on the pattern of the autoimmune conditions associated with celiac disease have been attributed to a normalization of the immune response. [6]

Since untreated celiac disease can result in serious complications, [12] A High index of suspicion is needed to identify the atypical forms of the disease therefore, we suggest serological screening tests be performed to search for CD in a patient with other autoimmune diseases.

4 CONCLUSION

The complete knowledge of the extra-intestinal manifestations of coeliac disease can result in effective change in the quality of life of the patients with this disease.

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REFERENCES

- [1] Kneepkens CMF, von Blomberg BME. Clinical practice: Coeliac disease. *European Journal of Pediatrics*. 2012;171(7):1011-1021. doi:10.1007/s00431-012-1714-8.
- [2] Rampertab, S., Pooran, N., Brar, P., Singh, P. and Green, P. (2006). Trends in the Presentation of Celiac Disease. *The American Journal of Medicine*, 119(4), pp.355.e9-355.e14.
- [3] Vilppula A, Kaukinen K, Luostarinen L, et al. Increasing prevalence and high incidence of celiac disease in elderly people: A population-based study. *BMC Gastroenterology*. 2009;9:49. doi:10.1186/1471-230X-9-49.
- [4] Burgdorf WHC, Plewig G, Wolff HH, Landthaler M. Braun-Falco Dermatology [Polish] Lublin: Czelej; 2010. Hair diseases; pp. 1053-83.
- [5] Ertekin V, Tosun MS, Erdem T. Screening of Celiac Disease in Children with Alopecia Areata. *Indian Journal of Dermatology*. 2014;59(3):317.

doi:10.4103/0019-5154.131468.

- [6] Lauret E, Rodrigo L. Celiac Disease and Autoimmune-Associated Conditions. *BioMed Research International*. 2013;2013:127589. doi:10.1155/2013/127589.
- [7] Balasa AL, Mihai CM, Chisnoiu T, Frecus CE. Atypical presentations of celiac disease. *ARS Medica Tomitana*. 2016;22(3). doi:10.1515/arsm-2016-0030.
- [8] Fessatou S, Kostaki M, Karpathios T. Unusual presentation of celiac disease in a child. *ANNALS OF GASTROENTEROLOGY*. 2002, 15 (1): 82-84
- [9] Yasawy MI, Al-Quorain AA, Tamimi DM. A typical adult celiac disease: Report of cases and review of the literature. *Saudi J Gastroenterol* 2004;10:99-102
- [10] Ferreira M, Lioyd Davies S, Butler M, et al. Endomysial antibody: Is it the best screening tests for celiac disease? *Gut* 1992; 23: 1633-37.
- [11] Elli L, Branchi F, Tomba C, et al. Diagnosis of gluten related disorders: Celiac disease, wheat allergy and non-celiac gluten sensitivity. *World Journal of Gastroenterology* □: *WJG*2015;21(23):7110-7119. doi:10.3748/wjg.v21.i23.7110.
- [12] Rubio-Tapia A, Murray JA. Celiac Disease. *Current opinion in gastroenterology*. 2010;26(2):116-122. doi:10.1097/MOG.0b013e3283365263.

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