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Letter to the Editor: Morphea, Gluten, and Autoimmunity: HLA Behind the Scenes?

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We read with great attention the recent case report published in the Kansas Journal of Medicine about the peculiar association of morphea, celiac disease, dermatitis herpetiformis, and dermatomyositis in a male adult.[1] We would like to highlight the genetic link between morphea and autoimmune disorders like celiac disease, along with the potent role of human leukocyte antigen (HLA) genes that may lay behind. In fact, numerous case reports in the literature depict similar lesions of morphea, notably in celiac patients with diabetes[2,3] and those individuals share a common pool of HLA alleles.[4]

Several studies investigating autoimmune diseases associated with morphea have identified an increased risk probably linked to a genetic (i.e., HLA) susceptibility.[5,6]

Genetically, several HLA alleles are associated with morphea and also strongly related to celiac disease and dermatomyositis,[7] as well as to other autoimmunes conditions like rheumatoid arthritis (HLA DRB1 *04)[8], multiple sclerosis (HLA DRB1*15 and HLA DQB1*06:02)[9], autoimmune thyroiditis (HLA-DR3)[10,11], and type 1 diabetes (HLA-DR3-DQ2 and HLA-DR4-DQ8).[12]

The near-future seems promising for a real "genetic card" (e.g., through HLA typing) offered to each patient with autoimmune disorders, and the early detection of all genetic, HLA-related risk is a strong perspective of personalized medicine for early diagnosis and individualized long-term management.

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REFERENCES

1 Jibbe A, Neill BC, Tolkachjov SN. Concurrent dermatomyositis, celiac disease, and dermatitis herpetiformis in a patient with a history of morphea. Kans J Med 2021; 14:203-205. PMID: 34367491.
2 Firoz EF, Kamino H, Lehman TJA, Orlow SJ. Morphea, diabetes mellitus type I, and celiac disease: Case report and review of the literature. Pediatr Dermatol 2010; 27(1):48-52. PMID: 20199410.
3 Loo WJ, Farrell AM, Holt PJA. The coexistence of lichen sclerosus and morphea in the same lesion in a child with insulin dependent diabetes and celiac disease. Eur J Pediatr Dermatol 2000; 10(4):201-204.
4 Deja G, Sikora D, Pyziak-Skupien A, Klenczar K, Deja R, Jarosz-Chobot P. The usefulness of genotyping of celiac disease-specific HLA among children with type 1 diabetes in various clinical situations. J Diabetes Res 2020; 2020:7869350. PMID: 32149153.
5 Simmonds MJ, Gough SCL. Unravelling the genetic complexity of autoimmune thyroid disease: HLA, CTLA-4 and beyond. Clin Exp Immunol 2004; 136(1):1-10. PMID: 15030506.
6 Hemminki K, Li X, Sundquist J, Sundquist K. Familial associations of rheumatoid arthritis with autoimmune diseases and related conditions. Arthritis Rheum 2009; 60(3):661-668. PMID: 19248111.
7 Rebollo-Domínguez N, Vega-Memije M-E, Villaseñor-Ovies P, García-Lechuga M, Granados J, Rangel-Gamboa L. Major histocompatibility complex class II (HLA-DR) is associated with morphea and systemic sclerosis patients. Blood Genom 2018; 2(3):165-170.
8 Wysocki T, Olesińska M, Paradowska-Gorycka A. Current understanding of an emerging role of HLA-DRB1 gene in rheumatoid arthritis-from research to clinical practice. Cells 2020; 9(5):1127. PMID: 32370106.
9 De Silvestri A, Capittini C, Mallucci G, et al. The involvement of HLA class II alleles in multiple sclerosis: A systematic review with meta-analysis. Dis Markers 2019; 2019:1409069. PMID: 31781296.
10 Lee HJ, Li CW, Hammerstad SS, Stefan M, Tomer Y. Immunogenetics of autoimmune thyroid diseases: A comprehensive review. J Autoimmun 2015; 64:82-90. PMID: 26235382.
11 Cortés JMR, Zerón HM. Genetics of thyroid disorders. Folia Med (Plovdiv) 2019; 61(2):172-179. PMID: 31301652.
12 Pociot F, Lernmark Å. Genetic risk factors for type 1 diabetes. Lancet 2016; 387(10035):2331-2339. PMID: 27302272.