Common Variable Immunodeficiency in Adult Woman With IDDM

Common variable immunodeficiency (CVI) is a heterogeneous group of disorders characterized by hypogammaglobulinemia, as well as an abnormal immune regulation. Although patients with CVI frequently develop autoimmune diseases, the association of CVI with IDDM is an unusual event. Recent reports have suggested a genetic susceptibility for both clinical entities (1). Here we report a new patient with IDDM and CVI and comment on the obtained results of her HLA phenotype study.

The patient was 45 years old when she was admitted to the hospital because of fever, asthenia, hyperglycemia, and expectoration. There was no family history of chronic infections or autoimmune endocrinopathies. She had a history of tuberculosis in childhood. At the age of 21, IDDM was diagnosed. At 28 years of age, she began having recurrent upper and lower respiratory tract infections, persistent sinusitis, and diarrhea with steatorrhea associated with *Giardia lamblia* infection. At that time, the analysis of serum concentrations of immunoglobulins (Ig's) showed low levels of IgA. In the following years, she had multiple hospital admissions because of frequent metabolic decompensations secondary to respiratory infections and malabsorption syndrome. The patient had initiated tuberculostatic therapy after a sputum culture positive for *Mycobacterium tuberculosis* 5 days before entry. Initial laboratory evaluation showed hemoglobin 11.5 g/dl, hematocrit 35.6%, white cell count 8,150/mm^3, and glucose 281 mg/dl. The value of C-peptide was <0.1 ng/ml (N: 0.7–4.0). Immunological evaluation showed panhypogammaglobulinemia (IgG 213 mg/dl, N: 694–1,618; IgA 40 mg/dl, N: 68–378, and IgM 31 mg/dl, N: 60–263). Islet cell antibodies, insulin autoantibodies, and autoantibodies to GAD were negative. Total peripheral blood lymphocytes (1,710/mm^3), CD4 (43.7%) and CD8 (37.1%) T-cells, and CD4-to-CD8 ratio (1.18) were normal. The patient's HLA typing revealed A1, A30, B14, B18, BW4, CW5, DR3, and DR52 antigens. The patient was diagnosed with CVI and was started on intravenous immunoglobulin replacement therapy. In the following 12 months, the patient increased her body weight, and the frequency of infections decreased, improving the metabolic control of her diabetes.

We report a new case of hypogammaglobulinemia in an IDDM adult woman identified when she presented with recurrent respiratory infections and a malabsorption syndrome that affected her metabolic control. CVI is an incompletely defined syndrome characterized by defective antibody formation, and its diagnosis is based on exclusion of other known causes of humoral immune defects (2). This syndrome predisposes the patient to recurrent bacterial infections of the respiratory tract, gastrointestinal disorders, and autoimmune disorders. Of patients with CVI, ~20% develop one or more autoimmune diseases. The most common clinical forms affect the hematologic system, especially Coombs-positive hemolytic anemia and idiopathic thrombocytopenic purpura. Other less common autoimmune diseases are pernicious anemia, autoimmune thyroid disease, rheumatoid arthritis, systemic lupus erythematosus, and Sjögren syndrome (3). Furthermore, IDDM patients are also prone to developing other autoinmmune disorders, such as Graves' disease, Hashimoto's thyroiditis, Addison's disease, vitiligo, and pernicious anemia. To date, however, few reports have described the association of CVI and IDDM (1,4–7), and it has been proposed that a genetic predisposition to the development of these two diseases is linked to the major histocompatibility complex. Although a recent study has shown an increased relative risk of IDDM and/or CVI in subjects with HLA-B8, HLA-B14, and HLA-A29 (1), in the present case, we found such risk only with HLA-B14. On the other hand, another possible relationship with the HLA system is that our patient expressed HLA-A30, whereas the patient described by Metin et al. (1) showed HLA-A29, both being serologically HLA-A19. This would increase the genetic similarity described. Finally, HLA phenotype of our patient included HLA-A1 and HLA-DR3. These antigens were also found in the patient with CVI and IDDM described by Moffitt (6) in 1989. These findings support a genetic predisposition linked to the HLA system in the pathogenesis of these two disorders.

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Utility of the American Diabetes Association Risk Test in a Community Screening Program

The current American Diabetes Association (ADA) risk test, "Take the test. Know the score," was used as a screening and educational tool in a community diabetes outreach program (1). Outreach workers went into underserved urban communities in Onondaga County, NY and presented over 40 educational programs on diabetes. As part of the program, participants were encouraged to take the ADA risk test and were offered a free plasma glucose test by venipuncture, especially if scoring ≥10 on the risk test.