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Case Reports

Multiple Autoimmune Syndromes Associated with Psoriasis: A Rare Clinical Presentation

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Abstract

Autoimmune diseases are known to have association with each other but it is very rare to see multiple autoimmune diseases in one patient. The combination of at least three autoimmune diseases in the same patient is referred to as multiple autoimmune syndrome. The case we are reporting features multiple autoimmune syndrome with five different conditions. The patient had type 1 diabetes mellitus, autoimmune hemolytic anemia, systemic lupus erythematosus, vitiligo, and psoriasis. Psoriasis has rarely been reported previously under the spectrum of autoimmune syndrome.

Although the relationship of autoimmune conditions with each other has been explored in the past, this case adds yet another dimension to the unique evolution of autoimmune pathologies. The patient presented with a combination of five autoimmune diseases, which makes it consistent type three multiple autoimmune syndromes with the addition of psoriasis. The current case is unique in this aspect that the combination of these five autoimmune disorders has never been reported in the past.

Keywords: Autoimmune syndrome; Vitiligo; Psoriasis; Hemolytic anemia; Diabetes; Systemic lupus erythematosus.

Introduction

Autoimmune syndrome is an exceptional clinical presentation. The combination of at least three autoimmune diseases in the same patient has been defined as multiple autoimmune syndromes (MAS).[1] It can be classified into three groups according to the prevalence of their association with one another: type 1, type 2 and type 3.[2] Genetic, infectious, immunologic and psychological factors have all been implicated in the development of MAS. Disorders of autoimmune pathogenesis occur with increased frequency in patients with a history of another autoimmune disease.[3] Since the first report by Humbert et al. in 1989, various dermatological autoimmune disorders have been described in association with systemic autoimmune diseases as components of MAS, such as psoriasis, scleroderma and vitiligo.[2,4] The coexistence of five autoimmune diseases is extremely rare.

The current case is an interesting case of multiple autoimmune syndrome in a middle-aged lady who presented with clinical features of five multiple autoimmune diseases, namely; autoimmune hemolytic anemia, type 1 diabetes mellitus, systemic lupus erythematosus, vitiligo and psoriasis.[2] The present case demonstrates a new clinical disease association that fulfills the MAS requirements. This case deserves to be mentioned as psoriasis is a rare clinical association in patients with type 3 MAS and has not been reported previously with vitiligo and autoimmune hemolytic anemia in the same patient, though it has been reported once with connective tissue disorders and primary biliary cirrhosis.[3] Literature search did not reveal any case report with these five conditions occurring in a single patient as yet, although there have been reports of variable associations between any two of these autoimmune diseases.

Case Report

A 42-year-old female presented at the clinic with depigmented skin patches for the last 13 months. Initially, there were small macules over the limbs and feet which gradually coalesced to develop larger patches. On the basis of clinical examination and skin biopsy, she was diagnosed as a case of vitiligo. She was also afflicted by a number of other autoimmune and chronic disorders. At the age of 16 years, she was diagnosed as case of diabetes mellitus. Her maternal family history was positive for type 1 diabetes mellitus. At the age of 23 years, she was diagnosed as a case of IgG positive autoimmune hemolytic anemia (AIHA), with initial manifestations of the disorder appearing at the time of the birth of her second child. She was under treatment on various regimens of corticosteroids and immunosuppressant. A few years later, she was admitted to the hospital with complaints of intermittent fever and joint pain. There was history of photosensitivity.

On examination, there were no facial rash, oral ulcers or alopecia. Investigations revealed pancytopenia, while investigations were negative for relapse of AIHA. Bone marrow examination was essentially normal. Diagnostic workup for systemic lupus erythematosus (SLE) was done which showed the presence of antinuclear (ANA) and anti-double stranded DNA antibodies, which are considered highly specific for SLE and was treated as a case of SLE. She had several milder relapses of joint pain with

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the appearance of oral ulcers which were successfully treated with various immunosuppressants. A few years later, she developed silvery scaly plaques on the extensor regions. They were nonpruritic. Skin biopsy confirmed the diagnosis of psoriasis. She was treated with immunosuppressants and various topical ointments. Later, she developed the depigmented patches of vitiligo which were treated with topical tacrolimus. Workup for other autoimmune disorders was negative. The patient responded well to therapy. She was advised regular hospital follow-ups to check the disease progress.

Discussion

The multiple autoimmune syndrome (MAS) was described by Humbert and Dupond in 1988 as a syndrome(s) consisting of three or more autoimmune diseases.[4] These disorders are characterized by inflammation and production of an extensive variety of autoantibodies detected against multiple autoantigens. The pathogenesis of multiple autoimmune disorders is not known although the genetic, immunological, hormonal and environmental factors are the major predisposing and triggering factors.[5] A patient suffering from one autoimmune disease has a 25% chance of acquiring another autoimmune disease.[6] The genetic risk factors for autoimmune diseases consist of two forms: those common to many autoimmune diseases (ADs) and those specific to a given disorder. Combinations of common and disease-specific alleles at HLA and non-HLA genes, in interaction with epigenetic and environmental factors (i.e., gluten, tobacco, Epstein-Barr virus, cytomegalovirus, etc.) determine the final clinical autoimmune phenotype.[5]

A number of polymorphic genes (i.e., HLA-DRB1, TNF and PTPN22) influence the susceptibility for acquiring different ADs.[7] Association and linkage studies in different populations have revealed that several susceptibility loci overlap in ADs and clinical studies have shown that frequent clustering of several ADs occurs.[3,4] Multiple autoimmune syndromes can be classified into three groups that correspond with the prevalence of their being associated with one another in patients with two autoimmune diseases. Type 1 MAS comprises myasthenia gravis, thymoma, polymyositis and giant cell myocarditis. Type 2 includes Sjögren's syndrome, rheumatoid arthritis, primary biliary cirrhosis, scleroderma and autoimmune thyroid disease. While type 3 groups comprises with autoimmune thyroid disease, myasthenia gravis, thymoma, Sjögren's syndrome, pernicious anemia, idiopathic thrombocytopenic purpura (ITP), Addison's disease, diabetes, vitiligo, autoimmune hemolytic anemia, systemic lupus erythematosus (SLE) and dermatitis herpetiformis.[5,6] According to the definition, the combination of five autoimmune diseases in the current patient qualifies for the diagnosis of MAS but as previously mentioned, literature search did not reveal this particular set of disorders in one single patient although a combination of any three of them has been reported.[8]

This specific case however, is interesting upon two notes. Firstly, autoimmune hemolytic anemia (AIHA) has not been demonstrated to be associated with psoriasis. Psoriatic skin disorders have not been previously reported as part of multiple autoimmune syndromes along with AIHA, SLE and vitiligo. The second point of interest in this case is the late appearance of vitiligo and psoriatic skin lesions. In most MAS cases with dermatological manifestations, vitiligo is liable to be the presenting symptom and patients start their symptoms of MAS with depigmented cutaneous lesions. The late occurrence of vitiligo and psoriatic skin lesions seem to be a unique, interesting and atypical expression of MAS type 3.

Conclusion

The current case report draws attention to the unusual clinical presentations of multiple autoimmune disorder. This case has been reported for its rarity and atypical presentation. The presence of one autoimmune disease should alert the physician to assess and monitor for others. The phenomenon of multiple autoimmune syndrome in this case highlights the need for continued surveillance for the development of new autoimmune diseases in affected patients. The collection of such observations may contribute to a revised classification of autoimmune diseases and provide better understanding of the pathophysiological mechanisms of autoimmunity.

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