

Case Report

Rare combination of autoimmune disorders Hashimoto's disease (HD), grave's disease (GD), vogt- koyanagi-harada: A case report

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Vogt-Koyanagi-Harada (VKH) syndrome is a rare entity characterized by depigmentation of the skin and eye lashes, chronic granulomatous iridocyclitis and exudative retinal detachment, as well as aseptic meningitis and encephalopathy. We describe a 33 year old female patient suffering from this syndrome, associated with Graves' disease (GD), Hashimoto's disease (HD), and Graves' ophthalmopathy (GO). The association with these various diseases represent an extremely rare combination of autoimmune disorders.

Key words: Vogt-Koyanagi-Harada disease, Graves' ophthalmopathy, retinal detachment.

INTRODUCTION

Vogt-koyanagi-HARADA syndrome (VKH) is a bilateral granulomatous panuveitis associated with cutaneous (poliosis, alopecia, and vitiligo), neurological (aseptic meningitis) and auditory (dysacusis, tinnitus, vertigo) manifestations related to a cell-mediated autoimmune process against melanocytes (Moorthy et al., 1995). Typically, VKH syndrome consists of three phases: a meningoencephalitis phase, an ophthalmic-auditory phase, and a convalescent phase. In the ophthalmic-auditory phase, symptoms such as blurry vision, pain, and eye irritation due to inflammation of the iris (iritidocyclitis) and uvea (uveitis) occur.

Graves' disease (GD) is an autoimmune disease. It most commonly affects the thyroid, frequently causing it to enlarge to twice its size or more (goiter), become overactive, with related hyperthyroid symptoms such as increased heartbeat, muscle weakness, disturbed sleep, and irritability. It can also affect the eyes, causing bulging eyes (exophthalmos). It affects other systems of the body, including the skin, heart, circulation and nervous system. While most of the visual symptoms in patient with Graves' disease considered to be caused by the hyper-

thyroid state which is known as Graves' ophthalmopathy (GO), we report a rare case of VKH syndrome in a patient with Hashimoto's disease (HD), GD, GO, and vitiligo, to increase awareness about other possible retinal involvement in patients with multiple autoimmune disorders, especially in patients with Graves' disease with visual symptoms. Our patient has GD, HD, vitiligo and VKH syndrome, an extremely rare combination of autoimmune disorders.

CASE

A 33 year old female patient from Taiwan was diagnosed with Graves' disease in 2006, who also had positive thyroperoxidase antibodies (HD) and vitiligo. Her hyperthyroidism was mild and controlled with antithyroid medications. Patient also was found to have upper eyelid retraction, redness and bulging in both eyes and was diagnosed to have Graves' ophthalmopathy (GO), which required plastic corrective surgery. She recently developed diplopia and partial visual loss. The patient denied ever having any form of generalized muscle weakness, headache, hemiparesis or hemiplegia, joint pain, fever, or weight loss. Patient also reported negative family history of any medical importance. Magnetic

resonance imaging (MRI) of the orbit was done which revealed findings suspicious for retinal detachment. She was seen by a neuro-ophthalmologist who diagnosed a retinal inflammatory disorder, consistent with VKH syndrome, which was confirmed later with a positive HLA-DR4 testing. She was started on oral steroids, on which she noticed improvement in vision.

DISCUSSION

VKH syndrome is a T-cell-mediated autoimmune inflammatory response against melanocytes in the eyes, ears, central nervous system, and skin (Qutub and Halder, 2012). It often affects patients with darker skin especially in Asia and America and females. Typically, VKH syndrome consists of three phases: a meningoencephalitis phase, an ophthalmic-auditory phase, and a convalescent phase. In the meningoencephalitis phase, symptoms such as generalized muscle weakness, headache, loss of muscle use on one side of the body (hemiparesis or hemiplegia), joint pain (dysarthria), and difficulty speaking or understanding language (aphasia) occur.

In the ophthalmic-auditory phase, symptoms such as blurry vision, pain, and eye irritation due to inflammation of the iris (iridocyclitis) and uvea (uveitis) occur. Auditory symptoms may include difficulty in hearing, ringing in the ear (tinnitus), or dizziness. In the convalescent phase, skin symptoms such as light or white patches of color in the hair, eyebrows, or eyelashes (poliosis), light or white patches of skin (vitiligo), and hair loss (alopecia) appear. The skin symptoms usually begin several weeks or months after the vision and hearing symptoms start. Between the ages of 20 to 50 years, the exact etiology of the disease is unknown, but genetic predisposition and association with certain HLA subtypes, namely, HLA-DRB1, are presumed to play a role. It presents with acute granulomatous uveitis that progresses to chronic uveitis, accompanied by extraocular organ involvement such as central nervous system, auditory system, and integumentary system. Extraocular organ involvement manifestations are included but are not limited to headache due to cerebrospinal fluid pleocytosis, dysacusia, poliosis, alopecia, or vitiligo (Setiabudiawan et al., 2011).

With steroid treatment, in VKH syndrome, two-thirds of patients maintain visual acuity (VA) of 20/40 or better, and only a minority of patients (11%) have poor VA (20/200 or better). Better outcomes are associated with good VA at 1 month after onset, younger age at onset of disease, and early treatment with corticosteroids (Setiabudiawan et al., 2011). The association of VKH syndrome with an autoimmune disease of organs, especially of the thyroid is rare, isolated cases have been reported in the literature. This was mainly Hashimoto's disease (Wiesli et al., 1999; Jaggarao et al., 1989; Kluger et al., 2008; Chi et al., 1994; Paroli et al., 2003), more rarely with Graves' disease (Seo et al., 2009) or polyglandular syndrome (Jovic et al., 1996). The pathogenesis of Hashimoto's thyroiditis appears to involve

humoral immunity as evidenced by the presence of anti-thyroid, but also cellular immunity. Indeed, they are clones of T CD4+ cells specific for certain antigens (thyroglobulin and microsomal antigen major or TPO) that appear to play an important role in the destruction of thyroid epithelial cells. Abnormalities of immune regulation have also been observed with a decrease in circulating T CD8 + cells with suppressive function (Duron et al., 2004). A genetic susceptibility characterized by different alleles, including HLA-DR3 in particular, has been associated with Hashimoto's disease. Pathophysiological similarities exist therefore between these two autoimmune diseases; their association in the same patient would not be a coincidence.

CONCLUSION

VKH is a rare autoimmune syndrome which can be associated with other endocrine autoimmune disorders such as autoimmune polyglandular syndrome, autoimmune thyroid disorders and diabetes mellitus. In patients with GD who develop ophthalmic manifestations, in addition to GO as the usual differential diagnosis (etiology), it is prudent to keep VKH syndrome in mind, as a rare autoimmune manifestation, in view of potential vision loss.

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