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CASE REPORT

A case with chronic hepatitis B and anterior uveitis - Is there any connection?

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ABSTRACT

Acute anterior uveitis is an intraocular inflammation and the responsible factors of its pathogenesis are mostly unknown. Some viruses such as HSV, CMV and VZV may be implicated in the etiology. Noninfectious uveitis is thought to be autoimmune. Chronic hepatitis B virus (HBV) infection may cause multiple complications, which are thought to be immune system mediated. Recently, some studies suggested that HBV could be one of the triggers for uveitis.

In this paper we present an anterior uveitis case developed in a woman who has had a chronic HBV infection. The reason for uveitis was unknown and we considered HBV as possible etiologic agent. *J Microbiol Infect Dis 2011;1 (2): 78-79*

Key words: Anterior uveitis, HBV, relationship

Kronik hepatit B ve anterior üveitli olgu - Aralarında bağlantı var mı?

ÖZET

Akut ön üveit, patogenezindeki sorumlu etkenlerin çoğunlukla bilinmediği intraoküler bir enflamasyondur. Etyolojide HSV, CMV, VZV gibi virüsler bulunabilmektedir. Enfeksiyöz olmayan üveitlerin otoimmun olduğu düşünülmektedir. Kronik Hepatit-B enfeksiyonu immün sistem aracılıklı olduğu düşünülen çok yönlü komplikasyonlara sebep olabilen bir hastalıktır. Yakın zamanda yapılan çalışmalarda, HBV'nin üveiti tetikleyen faktörlerden birisi olduğu öne sürülmüştür.

Bu yazıda ön üveit gelişen kronik HBV tanılı bir kadın olgu sunulmuştur. Üveitin başka bir nedeni bulunamadığı için HBV infeksiyonunu üveite neden olan etyolojik ajan olduğu düşünüldü.

Anahtar kelimeler: Ön üveit, HBV, bağlantı

INTRODUCTION

Chronic hepatitis B virus (HBV) infection is a process characterized by inflammation, necrosis, and fibrosis of liver which develops as a result of eradication of virus after insufficient response of immune system to hepatitis B virus.[1] It may cause multiple complications, which are thought to be immune system mediated. Some of these complications which are related with immune complexes due to HBV infection are glomerulonephritis, polyarteritis nodosa, polymyalgia rheumatica and arthralgia.

Acute anterior uveitis is a painful and hardly diagnosed condition. The factors responsible for its pathogenesis are largely unknown. Some of the etiologies of anterior uveitis are systematic collagen tissue and autoimmune diseases like Behçet's disease and rheumatoid arthritis. Also there are some infective agents that are implicated in its pathogenesis, such as herpes simplex virus (HSV), varicella zoster virus (VZV), cytomegalovirus (CMV), human immune deficiency virus (HIV) and Toxoplasma gondii.

We present an anterior uveitis case developed in a 28 year-old woman who has had an HBV infection for 11 years. We evaluated the patient for etiologic agents and wondered if there was any connection between HBV and uveitis.

CASE

A twenty-eight year old woman with a history of 11 years of HBV infection had a liver biopsy. According to biopsy and HBV DNA, she was given pegylated interferon alpha 2a therapy. At the sixth month of therapy, the patient was admitted to the hospital due to having problems on both eyes such as burning, pain, redness, blurry vision for 20 days, and the patient was diagnosed with anterior uveitis. In her ophthalmologic examination she had an 1+ conjunctival injection, there

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was kerato-precipitate in the corneal endothelium and 2+ cells in the anterior chamber. There was no posterior synechia, also no cell present in the posterior vitreus and her lens was clear.

Laboratory data showed that, HBsAg and HBeAg were positive, anti-HBs, anti-HBe, anti-HDV anti-HCV and anti HIV 1-2 were all found to be negative. Toxoplasma IgM and IgG were negative, anti CMV IgM, HSV type 1-2 IgM and HSV type 2 IgG were negative, anti CMV IgG and HSV type 1 IgG were positive. The orbital computer tomography was normal. The pathergy test was also found negative. She was evaluated for Behçet's disease and for other autoimmune diseases, but they were all negative. In controls, the uveitis was completely regressed.

DISCUSSION

Uveitis is an intraocular inflammatory disease which affects the uveal tract and the retina of the eye. Although the etiology of uveitis is mostly unknown, some viruses like HSV, CMV, VZV may be implicated in the etiology. Noninfectious uveitis is thought to be autoimmune in nature.

In some animal studies, it was found that HBV DNA polymerase shares amino acid sequences with uveitopathogenic epitopes.[2] Recently, Maya et al. suggested that, despite the insufficient data, HBV could have a potential role as an environmental trigger for the development of uveitis.[3] Grob et al. have also detected high frequency of HBsAg (13%) and anti HBs (23%) in 217 uveitis patients.[4]

On the other hand, in 1983 Murray et al. detected 2% HBsAg positivity in 200 patients who were diagnosed with acute anterior uveitis.[5] One year later in 1984 Murray et al. found all 49 patients were negative for HBsAg and anti- HBc. Based on these two studies, they excluded the role of HBV infection in the etiology of uveitis.[6]

As another etiologic agent, Fraunfelder et al. determined thirty-two cases of uveitis occurring after hepatitis B vaccination. In this study development of acute uveitis due to immune complex deposition has been reported.[7]

Lim et al. suggested an association between autoimmune hepatitis and uveitis despite the small size of the study.[8] In the patient we presented, we have not found any autoimmune cause which can lead to uveitis.

One of the treatment methods of chronic hepatitis B virus infection is pegile-interferon therapy. Most frequent side effects include flu-like syndrome, asthenia, and weight loss. Ophthalmological complications are rare. The most ocular side effect of interferon-alpha is retinopathy. But also recently a few studies were published with developing uveitis by interferon-alpha treatment. Damien et al. detected severe ophthalmological complications during interferon-alpha therapy included inflammatory ocular diseases who were 3 cases of Vogh-Koyonagi-Harada (VKH) diseases with granulomatous panuveitis.[9] Narkewicz et al. detected one case that has developed uveitis associated with the treatment of interferon-alpha.[10] Also interferon alpha was found to be effective against Behçet's uveitis refractory to conventional treatments.[11]

In conclusion, in this case the etiology of uveitis could not be found. HBV infection may contribute to the etiology of uveitis through an immune complex mediated reaction.

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