

Cytomegalovirus Infection in a Patient Causing Bilateral Papillitis and Gullain Barre Syndrome

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Case Report

This 40-year old lady presented to us with one month history of tingling sensation in the both lower limbs, first on the right side which in two days spread to the left side. There was associated pain and tenderness in the limbs. Within a few days she developed worsening weakness of the all four limbs, starting with the upper extremities. In last seven days she suddenly developed diminished vision of both eyes. The illness was preceded by fever of mild grade and cough, which lasted just for few days. There was no history of bowel and bladder involvement, headache, vomiting, loss of consciousness, convulsions, neck pain, palpitation, chest pain, backache, rashes, or joint pain. There was no difficulty in swallowing and speaking. The remainder of her history was not significant.

Her general physical examination revealed no abnormality. On neurological evaluation she was irritable but well oriented to time, place and person. She was noted to have bilateral facial paresis with flaccid quadriplegia with absent superficial tendon jerks. Planter response was bilaterally mute. There was muscular tenderness throughout. Ophthalmological evaluation revealed a gross diminution of vision (no perception of light in the right eye and 'counting

Cytomegalovirus (CMV) infection is common and mostly asymptomatic in otherwise healthy individuals. However, it causes eye and life-threatening illness in immunocompromised patients. Simultaneous occurrence of Guillain-Barré (GB) syndrome and CMV infection is extremely rare and described only in the form of case reports. This is a case report of an immunocompetent patient with CMV infection causing retinitis in association with GB syndrome.

Key Words: cytomegalovirus, GB syndrome, papillitis.

of fingers', in the left eye. Funduscopic examination showed papillitis bilaterally (**Figure 1**).

Her routine hematological and biochemical tests were within normal limits. A nerve conduction study showed conduction block in the median, ulnar, common peroneal and anterior tibial nerves. Cerebrospinal fluid (CSF) analysis showed normal cells and sugar level but her protein level was elevated. In serological study, IgM antibodies were present against cytomegalovirus. Collagen profile and other relevant investigations were within normal limits. Similarly, a computed tomography (CT) scan of her head was normal. Her serology was negative for human immunodeficiency virus (HIV).

She was treated with gancyclovir for CMV infection. Other supportive treatment such as physiotherapy, analgesics, back care, nutritional support, and counseling were provided. There was a gradual improvement in motor power and she could walk with support later but there was only slight improvement in vision. She was finally discharged from the hospital in the stable condition.

Discussion

CMV belongs to the herpes virus family. It is predominantly transmitted perinatally. In childhood, the major mode of transmission is by close contact, while in adolescence and adulthood; it is mostly transmitted through sexual contact or blood transfusion. Primary infection by CMV usually is asymptomatic. The reactivated CMV infection is responsible for the loss of vision and life-threatening complications. Reactivation of the latent CMV is commonly seen in the setting of an immunocompromised host; especially Human immunodeficiency virus (HIV)-infected patients⁶ with a CD4+ count of less than 100 cells/mL; patients on chronic immunosuppressive agents; and patients with malignancies. It is the most common cause of intraocular infection in patients with acquired

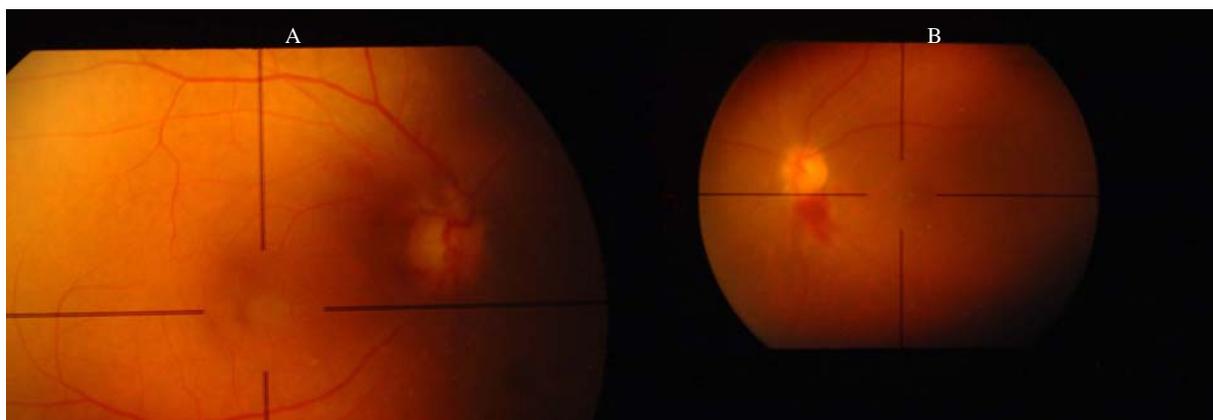


Figure 1. Fundi (right A, left B) of the patient with papillitis.

immunodeficiency syndrome (AIDS)⁵ and other immunodeficiency conditions. The use of highly active antiretroviral agents has led to fewer patients with CD4+ T-cell count less than 100 cells/mL; thus, putting fewer patients at risk of CMV retinitis.⁶ Patients with CMV retinitis typically complain of floaters, photopsia, or visual loss, without associated eye pain or injection. Another association of this viral infection is GB syndrome, which is an inflammatory disorder of the peripheral nerves and is characterized by the rapid onset of weakness with paralysis of the legs, arms, intercostal muscles and face. In severe cases, patients may be paralyzed, necessitating ventilatory support. Most people recover but the length of the illness is unpredictable and may last for months. CMV-related GB syndrome patients have a different clinical pattern in comparison with the other GB syndrome groups. They are significantly younger, initially have a severe course indicated by a high incidence of respiratory insufficiency, and often develop cranial nerve involvement and severe sensory loss. Anti-GM2 antibodies are associated with acute cytomegalovirus infection in patients with GB syndrome.^{1,8}

The drug of choice for the treatment of CMV retinitis depends on the extent and location of the disease, possible drug-related side effects, and effectiveness of prior treatments. Specific agents and modalities for the treatment of CMV retinitis include oral, intravenous, and intravitreal ganciclovir; intravenous and intravitreal foscarnet or combined intravenous ganciclovir and foscarnet; or intravenous cidofovir.³ These agents act by inhibiting CMV DNA polymerase. Ganciclovir is started with 5 mg/kg intravenously (IV) q12 hourly for 14 days, and then maintained as IV dose of 5 mg/kg/d for 7 days.^{4,7} The significant adverse effect with ganciclovir is myelosuppression.

Conclusions

In summary, this patient predominantly presented with sensory symptoms, flaccid quadraparesis, areflexia and

papillitis. IgM antibodies were documented against CMV and the patient partially improved with ganciclovir treatment. Thus the extremely rare diagnosis of GB syndrome in the setting of CMV infection in an otherwise immunocompetent patient was made.

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