

Guillain-Barre Syndrome Associated with Hepatitis B Vaccination: Letter to the Editor

Hepatit B Aşısı ile İlişkili Guillain Barre Sendromu

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Guillain-Barré syndrome (GBS) is an acute, immune-mediated paralytic disorder of the peripheral nervous system. The precipitating cause of GBS is not always obvious. Approximately 75% of all cases of GBS are preceded in the prior 1-3 weeks by an acute infection, usually respiratory or gastrointestinal. Other known precipitating factors include immunization against influenza, tetanus and hepatitis A-B.¹⁻⁴

A 6 years-old previously healthy child was hospitalized for progressive weakness for 3 days. Fifteen days before admission, she received the repeat dose of the recombinant hepatitis B vaccine. There was no bladder and bowel involvement, no history of fever, diarrhoea, jaundice or upper respiratory infection preceding this. Vital signs and anthropometry was in normal limits. Neurological examination revealed reduced power (2/5) and hypotonia in all extremities especially in distal parts. Deep tendon reflexes were absent. The remainder of the examination was unremarkable. Laboratory studies showed hemogram, serum electrolyte, renal and liver function tests were normal. Lumbar puncture revealed no white blood cells, 123 mg/dL protein and 60 mg/dL glucose. Cerebrospinal fluid culture, urine and stool culture were negative. Serologic tests for *Campylobacter jejuni*, HIV, HSV, cytomegalovirus, VDRL test, Epstein-Barr virus and *Mycoplasma pneumoniae* were negative. Anti-HAV Ig G level in serum was positive. HBsAg was non-reactive and anti-Hbs titre was 80 IU/L. Nerve conduction and electromyographic examination revealed demyelination damage. Spinal magnetic resonance imaging scan was normal. On the basis of the clinical and laboratory findings, the child was diagnosed as having GBS. The patient was given intravenous immunoglobulins 0.4 gm/kg/day for five days. She was discharged from the ward on the tenth day of admission. Physical examination at the end of the first month showed a 4/5 of the muscle power. Aside from absent tendon reflexes in the lower limbs, physical examination was normal.

Hepatitis B vaccine which is used all around the world, rarely have some systemic adverse events like GBS, demyelination of central nervous

system, otoimmune hemolytic anemia and immune thrombocytopenia, besides its local side effects.^{3,5} GBS has been rarely reported following vaccination with hepatitis B vaccine.³ The underlying pathophysiology of vaccine associated polyneuropathy

is presumed to involve an immune cascade induced by the precedent agent, leading to demyelination of the large nerve fibers. The evidence about the relationship between hepatitis B vaccination and GBS is still inadequate.

REFERENCES

1. Sarnat HB. Guillain Barré syndrome. In: Beherman RE, Kliegman RM, Jenson HB, eds. Nelson Textbook of Pediatrics. 17th ed. Philadelphia: WB Saunders Co; 2004. p. 2080-1.
2. Gürer YKY. [Inflammatory neuropathy]. *Turkiye Klinikleri J Pediatr Sci* 2008;4:90-8.
3. Kakar A, Sethi PK. Guillain Barre syndrome associated with hepatitis B vaccination. *Indian J Pediatr* 1997;64:710-2.
4. Blumenthal D, Prais D, Bron-Harlev E, Amir J. Possible association of Guillain-Barré syndrome and hepatitis A vaccination. *Pediatr Infect Dis J* 2004;23:586-8.
5. İncecik F, Önlen Y, Özcan K. [Immune thrombocytopenic purpura after recombinant hepatitis B vaccine: case report]. *Turkiye Klinikleri J Med Sci* 2007;27:797-9.