

## Herpes Zoster Following Hepatitis B Vaccination

*To the Editor.*- Recombinant hepatitis B vaccine (HBV) has been used widely in the world since 1991. Serious side effects after administration of the HBV are extremely rare [1]. We report here, a case of herpes zoster that occurred after administration of recombinant HBV. A 28-year-old man presented to our outpatient department with a history of multiple erythematous papular and vesicular lesions involving the right upper back; the lesions progressed to involve the right upper arm and trunk. This clinical picture had appeared 10 days after injection of the first dose of hepatitis B vaccine. The vaccine had used Engerix B® (Glaxo-SmithKline), a recombinant vaccine containing hepatitis B virus surface antigen (HBsAg). On cutaneous examination, we noted 1-3 mm papules and vesicles that were solitary or grouped over an erythematous base on right upper back and extending onto right upper arm but not crossing the midline, within an erythematous base. This eruption had the typical unilateral belt like distribution of herpes zoster. Tzanck smear from the lesions showed many multinucleated giant cells supplementing the clinical diagnosis of herpes zoster. Laboratory examinations were normal. Systemic acyclovir (800 mg five times daily for 7 days) and systemic analgesics were started. Topical silver sulphadiazine was applied three times a day to the lesions. Healing process was completed in 2 weeks. No relapse or complications were observed in a 3-month follow-up visit.

Herpes zoster, or shingles, a cutaneous viral infection generally involving the skin of a single dermatome, occur during lifetime of 10% to 20% of all persons. Zoster results from reactivation of varicella zoster virus. The cause of the re-activation is usually unknown, but seems to be linked to aging, stress, acute or chronic disease processes (particularly malignancies and infections), medications

of various types, or an impaired immune system [2].

There have been anecdotal reports of the association of hepatitis vaccination with herpes virus re-activation. Walter et al who described a 53-year-old white woman on no regular medication, received her first dose of a formaldehyde inactivated hepatitis A vaccine. The patient developed herpes zoster sixteen days after the vaccination. She was treated with valaciclovir with prolonged recovery [3]. Ruder et al conducted a clinical research to determine possible immunosuppressive effects of hepatitis B vaccination, and they studied all reactivity during to the course of immunization. As a result of this study they found that hepatitis B vaccination is capable of reducing allergenic reactivity [4]. Herpes zoster is not rare disease. Therefore, we cannot completely rule out that the association between vaccination and reactivation of herpes virus infections in our patient may be by chance. However, in our patient the lesions appeared approximately 10 days after the first dose of this vaccine, is consistent with a T-cell mediated immunologic mechanism. There was no evidence of any underlying cause like infections, leukaemia, stress etc. We believe that the vaccination may play an important role in the genesis of herpes zoster in our case and it may induce viral activation. It is possible that at times vaccination may decrease to immunity and leads to reactivation of varicella zoster virus with clinical lesions of herpes zoster. Further studies are required to explain the relation between vaccination and activation of herpes zoster infection.

İlteris Oğuz Topal,<sup>1</sup> MD  
Nilgün Bahçetepe,<sup>1</sup> MD

<sup>1</sup>Department of Dermatology, Okmeydanı Training and Research Hospital, Istanbul, Turkey.

E-mail: drilteris@yahoo.com

## References

1. Zanetti AR, Van Damme P, Shouval D. The global impact of vaccination against hepatitis B: a historical overview. *Vaccine* 2008; 26: 66-73. PMID:18848855
2. Sengupta S. Cutaneous herpes zoster. *Curr Infect Dis Rep* 2013; 31. PMID: 23901015
3. Walter R, Hartmann K, Fleisch F, Reinhart WH, Kuhn M. Reactivation of herpes virus infections after vaccinations? *Lancet* 1999; 353: 810. PMID:10459967
4. Ruder H, Kerling F, Daniel V, Korn K, Wassmuth R. Decreased alloreactivity after vaccination against hepatitis B. *Transplantation* 1995; 59: 1339-1342. PMID:7762071