Editorial

HERPES ZOSTER IN HUMAN IMMUNODEFICIENCY VIRUS INFECTION

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Clinical observations of Von Bokey (1909) that children develop varicella following exposure to patients with herpes zoster (HZ) were supported by Garlan (1943) who suggested that clinical zoster reflects the activation of a latent virus in a manner analogous to the recurrent activity of herpes simplex in human beings [1]. This concept was later confirmed by Weller et al in the laboratory [2-4]. They demonstrated that both varicella and HZ are caused by same virus. The varicella-zoster (VZ) virus, is a DNA virus of herpes family. In 1983, HZ was first recognised in the context of infection with HIV and since then there have been numerous reports on its occurrence and protean clinical manifestations [5,6]. Chauhan et al report another such case in this issue of the journal [7].

Varicella is basically a childhood infection and more than 90% of the population is affected before the age of 15 years. Reasons for latency of this virus, subsequent reactivation and manifesting as HZ are far from clear. Though HZ is reactivation of latent varicella virus, the reverse is not true i.e. zoster does not lead to chicken pox in the same individual.

It appears that immune system plays an important role in reactivation of VZ virus. Antibody levels do not differ much in people in various age groups and also do not correlate with susceptibility to HZ. It has been demonstrated that responsiveness of lymphocytes in culture to VZ antigen significantly decreases above 65 years of age [8]. This it is reasonable to conclude that cell mediated immunity and T-cell control reactivation of VZ virus. Incidence of HZ sharply increases in patients

with immunodeficiency state such as Hodgkin's lymphoma and transplant patients on immunosuppressive treatment. However, patients with solid tumours and leukaemia are not more susceptible. Incidence of HZ in HIV patients is 6 times higher compared to with normal immune status.

The spectrum of VZ virus disease has changed dramatically due to the HIV pandemic. Over the last several years, cutaneous HZ has become well recognized as a sentinel for underlying infection with HIV in high risk groups [9]. The development of HZ is now known to be a common manifestation of HIV infection as well as strong clinical predictor for the development of AIDS, in Americans and Africans [9]. It typically precedes other symptoms, such as thrush and oral leukoplakia, by an average of 1.5 years [10], which in turn, precede other AIDS defining opportunistic infections by 2 to 3 years [11].

The clinical presentation of HZ in HIV infection may be quite typical with radicular pain preceding a macular, papular or vesicular unilateral dermatomal eruption. Occasionally, lesions occur without pain [12] or pain without lesions (Zoster sine Herpete) [13]. The HZ eruptions may be multi-dermatomal [14], profuse and haemorrhagic [6] and the cutaneous lesions may become chronic. The individual vesicles and pustules may be larger, with development of extensive ulceration and black eschar. Acute disseminated HZ, defined as the occurrence of more than 25 extra dermatomal lesions, has been reported, which in occasional patients may persist. HIV positive patients tend to have recurrence of HZ with a relapse rate

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of about 20%. In spite of frank disseminated lesions, visceral involvement is extremely rare in HIV patients.

Prophylaxis and treatment in hosts with normal immune responses is not routinely recommended. In immune compromised patients, passive prophylaxis with VZ immune globulin, specific zoster immune globulin or zoster immune plasma is recommended within 72 hours of exposure. The use of these immune globulins in HIV infected remains limited to occurrence of varicella which can be lethal and would need aggressive therapy. The drug of choice for HZ in HIV positive patients is acyclovir. Acyclovir has an oral bioavailability of 15-30% in patients with normal intestinal function. Diarrhoea and malabsorption in HIV positive patients, therefore, makes intravenous route preferable. For clinical efficacy, acyclovir in the dose of 800 mg five times orally or 10 mg/kg intravenous 8 hourly daily for 10 to 14 days is required. Acyclovir treatment in HIV negative immunocompromised patients decreases viral shedding, occurrence of new lesions, local complications and dissemination [15]. In HIV positive patients, it also reduces the resolution time of lesions and incidence of post-herpetic neuralgia if given early.

Although occurrence of HZ has been thought to herald the impending development of AIDS in HIV infected persons [9], however, other workers did not find this association [16,17]. Rather than signifying a progression in immune dysfunction, Glesby et al have paradoxically shown that initial occurrence of HZ late in course of disease may be a marker for improved prognosis. In contrast, recurrence of HZ in patients with advanced HIV disease does not augur favourable a prognosis [17].

In view of alarming rise of HIV in Asia, we are likely to see polymorphous manifestations of VZ virus disease. There is no satisfactory animal model for study of HIV disease and vaccine is not yet on the horizon. Notwithstanding this, we hope that better understanding of mechanism of HIV disease will promote the logical development of safe, effective and economical therapy for opportunistic infection.

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