

Is the level of varicella-zoster virus IgG associated with symptomatic status of genital herpes simplex virus infection? A case-control study

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Abstract

Objectives Herpes Simplex Virus (HSV) is a common infection, affecting 90% of the population by age 50. Recurrent symptomatic outbreaks, experienced by a minority, have significant psychological and psychosexual effects. The Varicella Zoster Virus (VZV), resembling HSV2, shows potential for a functional cure via vaccination. This study investigates the link between low VZV antibody levels and recurrent HSV outbreaks. Methods During this case controlled study a total of 110 patients with symptomatic and asymptomatic HSV1&2 were recruited during their sexual health screen. Serum samples were collected between Aug 2019 - July 2022, breaks in the study occurred due to COVID and Monkeypox outbreaks. Primary outcome measure was the serological status of HSV and VZV and VZV IgG titre level. Results The average age was 37.3 years (range 21-65 years). For asymptomatic genital HSV2 the average VZV IgG titre was 2373.9 IU/mL (n=17) and 1219.0 IU/mL for the symptomatic group (n=67); $p < 0.00001$, with similar results for HSV1. Conclusion There is a strong association between average higher varicella-zoster virus (VZV) IgG level and being an asymptomatic carrier of Herpes Simplex Virus (HSV)1&2. Further research is planned.

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Fig 1 VZV IgG in HSV1 HSV2 and combined.docx available at <https://authorea.com/users/635301/articles/652744-is-the-level-of-varicella-zoster-virus-igg-associated-with-symptomatic-status-of-genital-herpes-simplex-virus-infection-a-case-control-study>

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Table 1 HHV Classification table.docx available at <https://authorea.com/users/635301/articles/652744-is-the-level-of-varicella-zoster-virus-igg-associated-with-symptomatic-status-of-genital-herpes-simplex-virus-infection-a-case-control-study>