Poster

[P27-3] P27-3: Anti-infective drugs (8): Antiviral

Chair: Birgit C. P. Koch, The Netherlands

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[P27-3-8] Effectiveness of acyclovir prophylaxis for varicella zoster virus infection after hematopoietic stem cell transplantation: a systematic review and meta-analysis

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Background

Varicella zoster virus (VZV) disease is a common complication after hematopoietic stem cell transplantation (HCT), and can be fatal. To reduce VZV disease after HCT, the long term prophylaxis of acyclovir has been evaluated. Several studies concluded VZV disease almost was suppressed during prophylaxis, however increased after the acyclovir discontinuation; i.e rebound effect exists.

We conducted meta-analysis to evaluate the effectiveness of acyclovir prophylaxis for VZV infection after HCT and whether rebound really exists or not.

Objectives:

The objectives of this studies are 1. to evaluate the incidence of VZV infection within the first one year after the acyclovir prophylaxis had been discontinued, and 2. to assess the risk of VZV infection / reactivation during acyclovir prophylaxis after HCT.

Methods

Medline, EMBASE plus EMBASE classics, and Cochrane Central Register of Controlled Trials were used for the systematic search. We developed literature search strategies using Medical subject headings (Mesh) and free text words related to “Acyclovir”, “Hematopoietic stem cell transplantation” and “Varicella zoster virus”. Exclusion criteria were animal or *in vitro* studies, case control studies and case reports. Intervention of this research was defined as acyclovir prophylaxis after HCT. Studies regarding long-term (more than six months) acyclovir prophylaxis against VZV infection after HCT were included. Incidence rate of VZV infection were calculated from the total number of patients. We performed analyses using the Review Manager Version 5.3.

Results

We included 8 studies involving a total of 1745 patients. Long term acyclovir prophylaxis significantly reduced the rate of varicella zoster infection within the first one year after the its discontinuation compared with no treatment. (RR:0.38, 95% CI : 0.32-0.47, P=0.26, I^2=21%, Chi ^{2}=8.84) And, the risk of VZV infection / reactivation during acyclovir prophylaxis were also reduced. (RR : 0.11, 95% CI : 0.08-0.17, P=0.73, I^2=0%, Chi ^{2}=2.79)

Conclusions:

This study showed that long term acyclovir prophylaxis significantly reduces VZV infection after its

discontinuation compared with no treatment,　and rebound effect does not exist. Long term acyclovir prophylaxis for varicella zoster virus infection after hematopoietic stem cell transplantation is effective during and after therapy.