Conclusions: The likelihood of being CMV seropositive is higher in females and older individuals. The risk has been decreasing over time both SCT patients and their donors. The likelihoods vary greatly between different countries.

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Infectious Complications in Patients Treated for Hematological Malignancies

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Background: Infections are a leading cause of complications in patients treated with high-dose chemotherapy and/or hematopoietic stem cell transplantation (HSCT) for hematological malignancies.

Methods: In a prospective observational cohort study we recorded all bloodstream infections (BSI) and all new pulmonary infiltrates in patients hospitalized at the Hematologic Reverse Isolation Unit of the University Hospital Basel from July 2003 until June 2005. Pulmonary infiltrates were separated into bacterial or fungal pneumonia according to microbiological and radiological findings. Invasive aspergillosis (IA) was classified as proven, probable or possible according to EORTC/MSG consensus definitions.

Results: From July 2003 to June 2005, 160 patients with 249 episodes of hospitalization were included. 91 (36%) episodes occurred during allogeneic HSCT, 40 (16%) to autologous HSCT and 118 (47%) to induction/consolidation chemotherapies. We noted 44 (18%) episodes of BSI (incidence 13.8/1000 days of neutropenia), 53 (21%) episodes of pneumonia (incidence 17.3/1000 days of neutropenia) and 35 (14%) episodes of IA (26 possible, 5 probable, 4 proven). IA occurred in 15/95 (16.5%) allogeneic HSCTs, in 16/118 (16%) chemotherapies and in only 1/40 (2.6%) episodes of autologous HSCT. The highest incidence of infectious complications was seen in patients undergoing allogeneic HSCT (59/91, 65%), followed by patients receiving high-dose chemotherapies (58/118, 49%) and lowest after autologous HSCT (12/40, 30%). Overall in-hospital mortality was 13%; 12% in allogeneic HSCT, 8% in chemotherapies and 0% in autologous HSCT.

Conclusion: The incidence of BSI was lower than reported in the literature, possibly related to the routine use of chlorhexidine-sulfadiazine-coated catheters. The incidence of pneumonia was higher probably because of the regularly performed CT scans. However, the IA rate was comparable to the literature.

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Long-Term Suppressive Acyclovir (ACV) Use Reduces Varicella Zoster (VZV) Diseases and Emergence of ACV-Resistant Herpes Simplex Viruses (HSV) After Stem Cell Transplantation (HCT)

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Background: One-yr ACV use effectively reduces VZV disease at one yr after allogeneic HCT, but VZV disease continues to occur in patients on persistent immune suppression (Boeckh et al. Blood, 2006).

Objectives: To determine the efficacy of two long-term suppressive ACV regimens sequentially introduced at the Fred Hutchinson Cancer Research Center (FHCRC) in preventing VZV disease after allogeneic HCT. To evaluate the impact of long-term suppressive ACV use on ACV-resistant HSV disease.

Methods: Three cohorts of VZV seropositive T cell replete allogeneic HCT recipients were examined: cohort 1 (no ACV; before 1999, N=722), cohort 2 (ACV 800 mg or VACV 500 mg BID for 1 yr; 1999-2002; N=851), and cohort 3 (ACV/VACV as in cohort 2 plus extended use in patients on continued immunosuppressive drugs at 1 yr; 2002-2003, N=402). The crude incidence rates of VZV disease in the 3 cohorts were calculated at 1 yr and at 2 yrs after HCT. Rate ratios (RR) were estimated by the Mantel-Haenszel person-time chi-square statistic. The probability of first VZV disease was evaluated using cumulative incidence estimates. The log-rank test was used to assess the equality of CI curves. Incidence of laboratory proven HSV and ACV-resistant HSV disease was compared between the groups using the fisher exact test. P values were two-sided.

Results: At 1 yr after HCT, VZV disease decreased from 35.2 per 100 person-yrs in cohort 1 to 4.5 in cohort 2 and 1.4 in cohort 3; by two yrs after HCT, VZV disease decreased from 28 per 100 person-yrs in cohort 1 to 7.3 in cohort 2 and 3.6 in cohort 3. The incidence rate ratio (RR) comparing cohort 2 and cohort 3 to cohort 1 was 0.26 (95%CI 0.20–0.34, p < 0.001) and 0.12 (95%CI 0.07–0.21, p < 0.001), respectively. RR comparing cohort 3 to cohort 2 was 0.48 (95%CI 0.28–0.84, p = 0.008). The fraction of cases of VZV disease prevented exclusively by ACV in cohort 2 and in cohort 3 was 73% and 87% respectively. One-yr (cohort 2) and
Methods: One hundred and seven plasma samples from 28 children with solid tumor who have undergone autologous HSCT at Henry Ford Hospital during 2005. Inclusion criteria were HSCT patients with CDAD diagnosed by identification of C. difficile toxin A or B in stool by ELISA and clinical characteristics of CDAD and the associated risk factors of this infection in HSCT recipients, a population at increased risk.

Methods: We performed a retrospective, unmatched, case-control study from January to December 2005. Inclusion criteria were HSCT patients with CDAD and the associated risk factors of this infection in patients who underwent autologous and allogeneic HSCT at Henry Ford Hospital during 2005.