Table 1. *Effect of Anti c-Kit mAb on Peripheral Blood Cell Counts*

	Day 0 Control	Day 2	Day 4	Day 7	Day 11
WBC	12.1	6.6	4.2	2.6	9.5
Hgb	15.1	14.5	13.2	6.2	5.3
ANC	796	180	32	26	320
Platelet Count	1107	1182	1098	763	220

Mice injected with 1 mg ACK-2 intravenously on Days 0, 2 & 4.

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EPITHELIAL CHIMERISM IN THE ORAL MUCOSA AFTER HUMAN HEMATOPOIETIC CELL TRANSPLANTATION

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Several study groups have reported on a nonhematopoietic chimerism following allogeneic hematopoietic cell transplantation (aHCT) both in animals and humans. We recently investigated this phenomenon in humans and described the pitfalls of identification of epithelial chimerism (Spyridonidis et al, Am J Pathol 164:1147–1155, 2004). The purpose of the present study was to examine epithelial chimerism in single cells isolated from the oral mucosa. Buccal scrapings obtained from 13 female patients who underwent a sex-mismatched aHCT were employed to prepare cytospins. The examination was performed 75–1964 days after aHSCT. At this time point, no patient had signs of mucositis or oral GvHD. Cytospin preparations were examined with a combination of FISH for the Y or the XY chromosome; immunofluorescent stain for the epithelial-specific marker cytokeratin (CK), for CD45, and Drag cell nuclei stain; with APAAP immunocytochemistry using either CD15-, CD45-, CD68-, or CD3-specific antibodies; and with hematoxylin and eosin (HE) staining. Evaluation of epithelial chimerism was performed with laser scanning confocal microscopy from examiners who were not aware of the patients' present or past medical history. CD45+ or CD3+ cells were found in 4 patients with a frequency of < 1%. No CD68+ or CD15+ positive macrophages were detected. In the FISH-Y combined stains, we detected Y+/CK+/CD45− cells in 12 of 13 patients (92%), with a mean of 1.8% Y+/CK+/CD45− cells per 200 total cells analyzed (range, 0.5%-7.3%). The identified Y+/CK+/CD45− cells were counterstained with HE and revealed an epithelial morphology. Screening of 5 patients with XY stain demonstrated all Y+ cells of them having only 1 X chromosome, making fusion as the underlying mechanism unlikely. We retrospectively reviewed the transplantation documents of every patient and found a significant correlation (P value = .0028) between the severity of mucositis in the early posttransplantation period (up to day +30) and the degree of epithelial chimerism found at later time points (days +75- +1964), where no signs of mucositis were present. We conclude that epithelial chimerism of the oral mucosa is a real phenomenon after aHSCT. Further molecular investigation on a single-nucleus level and analysis of greater number of transplanted patients are needed to understand the underlying mechanisms responsible for generation of the donor derived epithelial cells. Tissue injury seems to play a role in these mechanisms.

SUPPORTIVE CARE

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PEGFILGRASTIM VERSUS FILGRASTIM TO ACCELERATE HEMATOPOIETIC RECOVERY AFTER HIGH-DOSE MELPHALAN AND AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION (ASCT) FOR MULTIPLE MYELOMA

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High-dose melphalan followed by ASCT is a common component of the early treatment for multiple myeloma. Daily subcutaneous injections of filgrastim (Neupogen) at 5 μg/kg/day until ANC > 500/μL are routinely administered at our center from day +4 following ASCT, to accelerate hematopoietic recovery and lessen neutropenic complications. Pegfilgrastim (Neulasta) as a single 6-mg fixed dose via subcutaneous injection has been shown to have similar efficacy and ease of use as filgrastim in the nontransplantation setting, but little data are available in the transplantation setting. We began using pegfilgrastim on day +1 following ASCT for patients with multiple myeloma and performed a retrospective cohort study comparing those who received filgrastim (the filgrastim group [FG]; n = 6) with those who received pegfilgrastim (the pegfilgrastim group [PG]; n = 11). Transplantations occurred between July 2002 and January 2004 and included all patients transplanted for myeloma in that period for whom sufficient data were available. All patients had peripheral stem cells harvested after cytoxan/filgrastim mobilization. Main outcome measures were days from stem cell infusion to WBC nadir, days to ANC > 500/μL, and days to ANC > 1000/μL. Subjects were excluded if CBCs were drawn less often than every 4 days. There were no significant differences between the FG and the PG with respect to the following variables: age, gender, hemoglobin, creatinine, calcium, albumin, beta-2 microglobulin, number of prior lines of therapy, and number of CD34+ cells infused. After transplantation, the median number of days to WBC nadir was 7 (range, 5–9) in the FG and 6 (range, 5–8) in the PG (P = .31). However, median number of days to ANC > 500/μL was 11.5 (range, 11–17) in the FG and 10 (range, 9–12) for the PG (P = .02). Similarly, median number of days to ANC > 1000/μL was 12 (range, 11–17) for the FG and 11 (range, 10–13) for the PG (P = .03). Five of 6 patients in the FG had neutropenic fever after transplantation, compared with 5 of 11 patients in the PG (P = .30). Currently, no significant differences in infection or relapse rates between the groups was noted, and there were no deaths in either group. In this retrospective cohort study, pegfilgrastim was safe and at least equivalent to filgrastim for accelerating hematopoiesis after ASCT for multiple myeloma. Furthermore, there was no significant difference in the incidence of neutropenic fever, infection, and survival, suggesting a similar clinical utility.

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VANGANCICLOVIR PROPHYLAXIS FOR THE PREVENTION OF CYTOMEGALOVIRUS REACTIVATION AND DISEASE IN ALLOGENEIC STEM CELL TRANSPLANTATION RECIPIENTS

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Background: CMV infection continues to be an important cause of morbidity and mortality after allogeneic stem cell transplantation. Valganciclovir (VGC), the valine ester of ganciclovir, has excellent oral bioavailability and has the potential to replace intravenous ganciclovir in many situations, namely CMV prophylaxis or preemptive therapy after allogeneic transplantation. **Methods:** From October 2002 to April 2004, 34 patients who were either CMV seropositive or had a seropositive donor were enrolled in prospective trial of intravenous (IV) ganciclovir at 5 mg/kg twice a day for 1 week, followed by oral VGC 900 mg twice a day for a total of 180 days. IV ganciclovir was started at time of engraftment. Dose adjustments of VCG were made according to renal function, and growth factors were allowed in the event of neutropenia. Study endpoints included incidence of CMV reactivation and disease during the first 180 days after transplantation. For the study, viremia was defined as a positive CMV blood culture by shell vial or conventional culture. A positive antigenemia assay in patients with severe (grade III-IV) GVHD was defined as 1 positive cell on either of 2 duplicate slides. For patients with no or mild GVHD (grade I-II), a positive antigenemia assay was defined as 2 positive cells/slide. **Results:** Thirty-four patients were enrolled. Thirteen patients were not able to proceed after consenting due to positive antigenemia prior to starting study (3 patients), financial reasons (3 patients), severe gut GVHD unabling oral intake (5 patients), or death (2 patients). Of those who received VGC, the median age