tality by surgery 50% versus no surgery 76%. The number of patients who had HSCT increased over time: <30days = 7, 30days–100days = 9, and >100days = 15. Caspofungin used in 23%. Concommitant infection seen in 60% of patients. Mortality for patients treated with amphotericin was >75%. **Discussion:** The characteristics of patients and outcomes for voriconazole exposure are typical for Zygomycosis infection from any cause in addition to steroid and Rhizopus species. Reports are from diverse geographical sites around the USA.Voriconazole is being used off label as prophylaxis without data to support efficacy. One institution reported voriconazole an independent risk factor for Zygomycosis. Breakthrough infections are common with other azoles, so our findings here are not unexpected. Trials are needed determine if cases of Zygomycosis with voriconazole are offset by a more pronounced decrease in Aspergillosis and other voriconazole susceptible organism. We urge caution with indiscriminate prophylaxis and empiric treatment. Diagnosis of infection with prior voriconazole exposure requires appropriate treatment with Zygomycosis coverage.

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NAUSEA AND VOMITING (N AND V) IN BONE MARROW TRANSPLANT (BMT) PATIENTS—AN INVESTIGATION OF THE INCIDENCE, TIMING, AND RELATED FACTORS

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Background: Patients receiving high dose chemotherapy (HDCT) pre-BMT are at risk of N and V from multiple causes—highly emetic conditioning chemotherapy ± Total Body Irradiation; prior chemotherapy experiences; concomittant medications such as anti-infectives, opioid analgesics, immunosuppressants which may add to N and V; regimen related toxicity such as mucositis may play a role; nasoenteric feeding (N/E) is sometimes used. Whereas evidence based antiemetic guidelines are available for standard chemotherapy, they have not yet been accepted for BMT. Information on our own BMT patients had not been collected. **Aim:** To investigate the incidence, timing, and factors affecting N and V in BMT patients. **Methods:** Patients were interviewed to obtain consent, history of previous emesis and their risk factors for emesis. HDCT started on day −7 to −2 depending on protocol, and transplant on day 0. Patients were given a diary and education on how to record N and V daily until discharge. Standard antiemetics were given during HDCT. Chemotherapy, nursing emesis scores, all medications, incidence of mucositis, and use of N/E feeding was recorded. **Results:** There were 21 patients, 52% male, mean age 51. Conditioning regimens included high dose melphalan, cyclophosphamide/TBI, Bu/Cy/Etoposide, and BEAM. Most patients had experienced prior CT-induced nausea (81%) and vomiting (62%). Patients did not all record N and V every day for the following reasons: too unwell (febrile, severe mucositis etc), forgot, lost interest. Eight patients (38%) had no vomiting at all during this study. Incidence of vomiting of any grade peaked on day 5 (36% patients). Nausea of any grade was up to 71% on days 3 and 4. Nausea persisted in >50% of reporting patients on day 12, and in 4 patients (all receiving melphalan) on day 25. Prior chemotherapy-induced emesis was a significant predictor of at least one vomiting episode ($P = .01$). Other factors were not significant. **Conclusions:** Nausea and vomiting are unresolved toxicities in BMT. Methodology for collecting N and V information will be modified for an on-going study.

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RABBIT ANTI-THYMOCYTE GLOBULIN (RATG;THYMOGLOBULIN®) PHARMACOKINETICS IN PEDIATRIC PATIENTS RECEIVING A HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT)

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Objective: The pharmacokinetics of active and total rATG were determined in children with hematologic malignancies receiving a HSCT. **Methods:** Pediatric patients (n = 5) undergoing HSCT with a matched unrelated donor (MUD), non-T cell depleted graft received 1 mg/kg rATG on day −4, then 3 mg/kg on days −3, −2, −1 (total dose 10 mg/kg). Blood samples (n = 14) were obtained from each patient at baseline, 24 hours post dose, day 0, +1, +3, +5, +7, and weeks 2, 4, 8, 12, and 24). Total rATG by ELISA and active rATG by FACS were assayed at each time point. Conditioning regimen consisted of fractionated TBI (day-8 to -5) thiotepa (5 mg/kg q12h × 2 doses day &minus4), cyclophosphamide (60 mg/kg × 2 days −3, −2) with cyclosporine beginning day −2. **Results:** Intersubject variability was substantial with a 4-fold range for total and active rATG on day 0. Total rATG was measurable in all patients through week 4 and in 4 of 5 patients at 8 weeks. Mean day 0 total rATG was 47 mcg/ml (CV 49%; range 22.6-80.7) and on day 28 was 15.5 mcg/ml (CV 41%; range 5.1-20.6). Active rATG was measurable in all patients through week 2, 4 of 5 patients at week 4, and was undetectable (<0.2 mcg/ml) in all patients at 8 weeks. Mean day 0 active rATG was 2.1 mcg/ml (CV 49%, range 0.95-3.74) and on day 28 was 0.51 mcg/ml (CV 102%; range <0.2-1.28). Median percent active rATG after dose 1 was 14% and progressively decreased during rATG administration to 4-5% on day 0 and remained similar through week 2. Median half-life for total rATG is 15 days but could not be reliably estimated for active rATG. All patients engrafted by day +23 (ANC > 500), engrafted platelets by day +49 (≥20 K). There were no episodes of grade 3-4 GVHD, 1 patient developed grade 2 GVHD, and no grade 3 or 4 adverse rATG related events or serious infections. **Conclusions:** When compared to previously published adult data (Waller et al; Biol Blood Marrow Transplant 9:460, 2003), pediatric patients have substantially lower total and active rATG despite receiving higher doses. Differences in patient population, dose, schedule, and sampling make comparisons with prior studies difficult. However, these initial data in children suggest significant differences in rATG pharmacokinetics from adult transplant patients that preclude extrapolation of pediatric dose regimens from adult studies.