delta T cell proliferation, phenotype, TCR repertoire and function to PB gamma delta T cells when culturing cells with the NBP, Zometa (zoledronic acid), and IL-2. Fourteen days in culture resulted in significant fold increase in the proliferation of gamma delta T cells and in the percent of lymphocytes in both sample types. PB gamma delta T cells proliferated more robustly than CB with a 288.60 versus 21.32 fold increase, respectively. Additionally, in freshly isolated samples, CB gamma delta T cells comprised an average of 1.404% of the lymphocyte population, which was similar to PB gamma delta T cells, with an average of 2.319%. However, by day 14, PB gamma delta T cells increased to 70.15% of lymphocytes whereas CB gamma delta T cells increased to 12.49%. Phenotypically, we also examined TCRγ9 and TCRδ2 expression and found that the TCRγ9δ2 was a common clone in freshly isolated PB gamma delta T cells, which predominated after 14 days in culture. However, while the TCRγ9δ2 variant was present in CB gamma delta T cells, it was low before and after culture, suggesting that Zometa may not stimulate gamma delta T cells in CB the same as PB. The memory subsets of freshly isolated gamma delta T cells were similar for CB and PB. Yet following culture, PB gamma delta T cells were mostly CD45RO+ memory cells, specifically effector or central memory subsets, with significantly fewer CD45RA+ naïve cells, whereas more CB gamma delta T cells were of the intermediate CD45RA+CD45RO+ naïve subset. In addition, we also observed that memory status corresponded with the TCR variant; more Vγ9 and Vδ2 cells were memory cells and Vδ1 cells were mostly naïve. Functionally, PB and CB gamma delta T cells had distinct cytokine secretion profiles both before and after culture. PB gamma delta T cells secreted more IFNγ and TNFα after culture, while CB gamma delta T cells secreted more IL-10 and RANTES. As limited TCRγδ phenotypic reagents are available, we developed a single cell PCR assay for genotypic analysis of the TCRγδ repertoire. PCR analysis suggests that the TCRγδ repertoire of freshly isolated cells is diverse in both samples types, with more variation among the CB gamma delta T cells, while TCRγ9δ2 is most prevalent in PB. Further analysis of the variant subsets is warranted and may give insight into how each of these receptor pairings affects gamma delta T cell function.

SUPPORTIVE CARE

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The Role of Tuberculin Skin Test As a Guide to Preventive Chemotherapy for Latent Tuberculosis Infection in Hematopoietic Stem Cell Transplantation in a Region with Intermediate Prevalence and Routine BCG Vaccination: A Preliminary Report from Turkey

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Turkey is a country with intermediate tuberculosis (TB) prevalence (24 cases per 100,000 population) where BCG vaccination is mandatory. Immunocompromised patients are at risk for TB infection. However, tuberculin skin test (TST) has limitations in immunocompromised patients while diagnosing latent TB infection (LTBI) and commencing isoniazid (INH) chemoprophylaxis. After 2000 consensus statements recommended INH prophylaxis in higher risk patients with a cut-off TST value of 5 mm. This retrospective study was conducted to determine the frequency of TB in HSCT recipients and the role of chemoprophylaxis with different cut-off values of TST (<5 mm, 5 to 10 mm, 10 to 20 mm, and ≥20 mm) in a region with intermediate TB prevalence.

Table
Distribution of BCG scar positivity and presence of INH prophylaxis with respect to TST values

	Autologous HSCT	**Allogeneic HSCT**
TST value	N=320 Positive BCG scar/INH prophylaxis/total # of patients	N=272 Positive BCG scar/INH prophylaxis/total # of patients
0-4, 9 mm	68/13 /153	70/10/ 137
5- 9, 9 mm	21/14/ 37	24/16/ 33
10- 19, 9 mm	53/56/ 87	31/29/ 57
≥ 20 mm	5/9/ 17	7/7/ 8
data not available	26	37

Patients and Methods: Five hundred and ninety two patients [320 (54 %) autologous and 272 (46 %) allogeneic] transplanted at our center between September 2003 and July 2014 and survived for ≥100 days post-transplantation were included. The median age was 51 years-old (range 16-71) in autologous and 29 years-old (range 15-64) in allogeneic HSCT recipients. The decision to initiate INH prophylaxis was usually based on universal guidelines however modifications were also made at the discretion of the pulmonologist responsible for the pre-transplantation consultation or the new released guidelines. Anergy was defined as any reaction size of 0 to 2 mm in diameter.

Results: BCG scar data was available in 148 of 320 autologous (46.3 %) and 133 of 272 (48.9 %) allogeneic HSCT recipients. Distribution of positive BCG scar and INH prophylaxis with respect to TST values are given in table. Anergy was detected in 141 (44.1 %) of autologous and 124 (45.7 %) of allogeneic HSCT recipients. Positive BCG vaccination scar data was available in 47% of anergic patients. Ninety-two (28.8%) of autologous and 64 (23.5 %) of allogeneic HSCT recipients received INH prophylaxis. None of the allogeneic HSCT recipients and 1 in 320 (0.3 %) patients in autologous HSCT developed TB. This patient was TST anergic prior to transplantation and was not on chemoprophylaxis.

Conclusion: Our data showed low frequency of TB after HSCT despite variable chemoprophylaxis practices. Recent guidelines recommended reduction of TST threshold to 5 mm in higher risk patients. However our results suggest that these general guidelines do not apply to all patients and all regions.

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Nasal Endoscopy in the Evaluation of Prolonged Febrile Events in Children Undergoing Hematopoietic Stem Cell Transplantation

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Background: Early detection and treatment of fungal sinusitis is critical in the successful treatment of these