no cytotoxic potencial against HCT116*luc* cells (NY-ESO-1−/HLA-A*02+), demonstrating target specificity. Next, we generated an in vivo melanoma model through subcutaneous injection of 1×106 A375*luc* cells in NSG mice and after 6 days the animals (3–5 per group) were intravenously treated with 7×106 engineered T cells or non-transduced T cells (NT T cells) (1 donor). Twenty days after the treatment, the tumor burden of 80% (4/5) of animals treated with TCR-T cells increased up to 1.5 times (average: 4.5 ± 7.7 times) and in 80% (4/5) of the animals that received TCR+ shRNA- T cells this increase was ≤3.4 times (average: 2.4 ± 2.9 times). However, the average tumor burden increased 39.9 times (±35.3) in animals treated with NT T cells and 824.1 times (±1302.1) in untreated mice. From day 20 to 34 post treatment only untreated animals (5/5) had tumors with volume ≥2cm^3 and were euthanized. Collectively, these data demonstrate the successfull generation of T cells expressing high affinity TCR anti-NY-ESO-1:HLA-A*02 with NY-ESO-1 specific and potent antitumor activity. These results lay the groundwork for the development of a new advanced cell therapy product for solid neoplasms and other NY-ESO-1+ malignancies.

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RECURRENT CYTOMEGALOVIRUS REACTIVATIONS: FREQUENCY, VIRAL DYNAMIC AND RISK FACTORS IN ALLOGENEIC STEM CELL TRANSPLANTATION.

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Background: Cytomegalovirus reactivation (CMVi) is a significant concern following allogeneic sStem Cell Transplantation (allo-SCT) and is associated with considerable morbidity and mortality. High immunosuppression increases the risk of CMV reactivation, leading to recurring episodes, and CMV viremia has been associated with high overall and non-relapse mortality rates. **Objective:** This study aims to describe the frequency, the differences in the viral dynamic compared to the first episode, and the risk factors for recurrent CMV (CMVrec). **Methods:** A prospective cohort of 260 allo-SCT transplants, enrolled between 2016 and 2023, underwent CMV screening using quantitative PCR (Qiagen/Abbott) in plasma. The screening began during the first week after SCT and was repeated weekly until D+100. Additional screenings were performed if immunosuppression continued beyond D+100. Recurrent CMV (CMVrec) was defined as a new viremia in a patient with a previous episode who had tested negative for the virus for at least four weeks. **Results:** Among the 260 allo-SCTs, the median age was 41 years (ranging from 2 to 76), and acute myeloid leukemia represented 36%, followed by acute lymphocytic leukemia with 21%. The distribution of Haploidentical (Haplo), Unrelated Donor (URD), and Related Donor (RD) was 110 (42%), 80 (31%), and 70 (27%), respectively. The median follow-up duration was 240 days. CMVi occurred in 189 transplants (73%), with 285 episodes. The frequencies of reactivation in URD, Haplo, and RD cohorts were similar (60%, 76%, and 81%, respectively; p = 0.007). At least one CMVrec occurred in 63 (33%) transplants with CMVi. One, 2, 3, and 4 recurrent episodes were documented in 35 (13%), 20 (8%) 6 (2%), and 2 (1%) transplants, respectively. CMVrec showed lower peak viral load (median 115 vs. 1600 IU/mL; p < 0.001) and shorter duration of viremia (median 8 vs. 37 days; p < 0.001) but similar initial viral load (median 84 vs. 94 IU/mL; p = 0.098) compared to the first episode. CMVrec was more frequent in RD transplants (43.4%) compared to URD (23.9%) and Haplo (32.7%) (p < 0.005). The viral dynamic including first viral load (90 vs. 101 IU/mL; p = NS), peak viral load (1297 vs. 1908 IU/mL; p = NS), duration of viremia (37 vs. 36; p = NS), the median time for the episode (D + 24 vs. D + 26; p = NS) and frequency of treatment were similar (81% vs 86% p = NS) in the first episode from transplants with or without recurrence. **Conclusion:** In our data, the frequency of recurrent CMV was high and the CMVrec episodes had different viral dynamics compared to the first episodes. Characteristics of the first episode were not associated with the frequency of recurrence, except for the type of donor.

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DESCRIPTIVE ANALYSIS OF HEMATOPOIETIC STEM CELL TRANSPLANTS PERFORMED IN A PUBLIC SERVICE BETWEEN 1984 AND 2023

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Introduction: Hematopoietic Stem Cell Transplantation (HSCT) is a treatment modality for some benign and/or malignant diseases that affect blood cells. The first successful HSCT took place in the USA in 1957 and later in Brazil in 1979. Several changes have occurred over the decades from scientific and technological advances. Studies that explore descriptive analysis are important in order to monitor trends and changes over time and generate knowledge for practice and actions in public policies. **Objective:** To describe the characteristics of transplants performed in a public HSCT center. **Material and methods:** This is a descriptive study carried out in a HSCT center that used an institutional database and the Center for International Blood and Marrow Transplant Research (CIBMTR) between July 1984 and June 2023 as a