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Cytomegalovirus Infection after Allogenic or Haploidentical Stem Cell Transplant, a Single-Center Experience in the Last 6 Years.

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INTRODUCTION

Cytomegalovirus (CMV) after stem cell transplantation is one of the most important causes of morbidity and mortality after hematopoietic stem cell transplantation (HSCT) (Diaz et al. 2020). CMV infection is present in 60% of seropositive allogenic and haploidentical HSCT and can cause invasive end-organ diseases (Luo et al. 2021). Risk factors for post-transplant CMV infection include those related to the recipient: CMV serostatus, age, and sex; those related to the donor: CMV serostatus, age, sex of donor, human leukocyte antigen (HLA) match, and stem cell source; and those related to the transplant: intensity of conditioning, type of conditioning (Dziedzic et al. 2017). Despite multiple efforts toward early diagnosis and treatment, CMV infection is still an important risk factor for transplantation-related mortality.

OBJECTIVE

To describe the CMV status in patients after allogeneic or haploidentical HSCT from 2018 to May 2024.

METHODS

Design: Retrospective observational analysis from 2018 to May 2024.

Patients: Data was retrieved from electronic records of 38 adult patients, recipients of an allogeneic or haploidentical HSCT at Centro Medico Nacional 20 de Noviembre in Mexico City.

RESULTS

The population analyzed consisted of 27 men (71%) and 11 women (29%). The median age was 32 years old (range, 19-64). The most common diagnosis was acute lymphoblastic leukemia (n=20, 53%), followed by acute myeloid leukemia (n=5, 13%). Most recipients (n=25, 66%) and donors (n=29, 76%) were CMV positive. The type of transplant was haploidentical in 58% (n=22) and allogeneic in 42% (n=16). Infection after transplant was documented in 37% of patients (n=14). Preemptive therapy was given to 21 patients; in these patients, the CMV infection rate was 33% (n=7) versus 41% (n=7) in patients that did not receive preemptive therapy. The average number of days for infection detection was 57 (3-140). Mortality related to CMV was 25%.

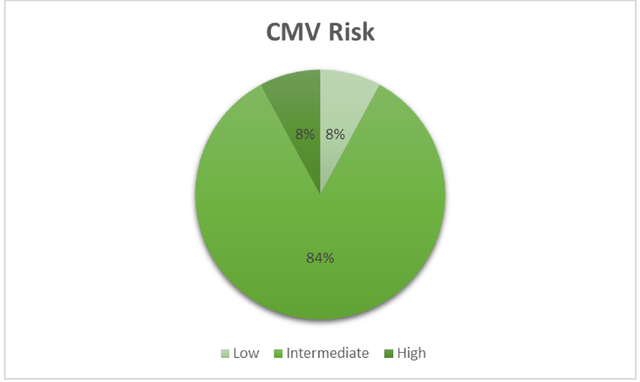
CONCLUSIONS

CMV is frequent after allogenic or haploidentical HSCT and an important cause of mortality. Preemptive therapy is a strategy to aid to reduce CMV post transplant infections. Categorizing the patients according to risk, helps identify the higher risk patients. In this population, if a patient acquired CMV infection, it had a 21% chance of dying of it. At the moment, mortality related to CMV represents 25% of deaths.

Table 1: Patients characteristics.

No. Of Patients	38
Age, Median (range), year	32 (19-64)
Sex N (%) Male Female	 27 (71) 11 (29)
Diagnosis Acute Lymphoblastic Leukemia Acute Myeliod Leukemia Myelodysplasic Neoplasm Aplastic Anemia Others	 20 (53) 5 (13) 4 (10) 3 (7) 7 (16)
Type of Transplant Allogeneic Haploidentical	 16 (42) 22 (58)
CMV Donor Status Positive Negative	 29 (76) 9 (24)
CMV Recipient Status Positive Negative	 25 (66) 13 (34)
Post Transplant Infection	14 (37)
Preemptive Therapy **Yes** **No**	 21 (55) 17 (45)
Average day of infection detection	57 (3-140)
Mortality Total Related to CMV	12 3 (25)

Graph 1. CMV Risk Distribution



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