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721.ALLOGENEIC TRANSPLANTATION: CONDITIONING REGIMENS, ENGRAFTMENT AND ACUTE TOXICITIES

Clinically Significant CMV Infection in Allogeneic Stem-Cell Transplant Recipients: A Single Center Experience

Amaal Gulied, PharmD, BCOP, B.Sc. (Pharm)[1], *Aya Alasmar, PharmD, B.Sc. (Pharm)*[1], *Mohammad Bakr, MDMBBS,MSc,DM,MAS*[2], *Hawra Shawayli, MD*[3], *Rola Ghasoub, B.Sc. (Pharm),BCOP*[1], *Afraa Mustafa Sulieman Fadul, MD*[4], *Amna Gameil, MBBS,MD*[5], *Deena SIDEEG Mudawi, MD MBBS*[6], *Anas Ahmad Hamad, PhD MSc, B.Sc. (Pharm)*[1], *Javid Gaziev, MDPhD*[2]

[1]Department of Pharmacy, National Center for Cancer Care and Research, Hamad Medical Corporation, Doha, Qatar
[2]Department of Hematology and Bone Marrow Transplant, National Center for Cancer Care and Research, Hamad Medical Corporation, Doha, Qatar
[3]Medical Oncology/Hematology Section, National Center for Cancer Care and Research, Hamad Medical Corporation, Doha, Qatar
[4]Department of Hematology and Bone Marrow Transplant, National Center for Cancer Care and Research, Hamad medical corporation, Doha, QAT
[5]Department of Hematology and Bone Marrow Transplant, National Center For Cancer Care Research, Doha, Qatar
[6]Department of Hematology and Bone Marrow Transplant, National Center for Cancer Care and Research, Hamad Medical Corporation, DOHA, QAT

Introduction:
Cytomegalovirus (CMV) infection is one of the major causes of concern in allogeneic stem cell transplantation (allo-HSCT). Here we report the clinically significant CMV infections among allo-HSCT recipients at the National Center for Cancer Care and Research (NCCCR) in Qatar.

Methods:
A retrospective review of the electronic health records of all malignant hematology patients who underwent allo-HSCT at NCCCR was performed from September 2017 to December 2022.

Results:
Fifty-one malignant hematology patients have been transplanted during the data collection period. Patient characteristics are summarized in Table 1. The median age was 34 years (range 14-53 years). CMV-serostatus was positive in fifty recipients (98%) and all donors. Thirty-two patients (62.7%) have received matched-related grafts. The most frequent indication for HSCT was acute myeloid leukemia, followed by acute lymphoblastic leukemia. Forty-six patients (92%) underwent myeloablative conditioning therapy. Graft-versus-host disease (GvHD) prophylaxis used in the non-haploidentical group was cyclosporine and short-course methotrexate while haploidentical recipients received cyclosporine, mycophenolate mofetil, and post-transplant cyclophosphamide. Letermovir prophylaxis was accessible for use for high-risk patients from February 2022. CMV-PCR was monitored twice per week for all patients until day +100. The clinically significant CMV infection rate was 51%. The cumulative incidence of CMV infection in haploidentical and non-haploidentical groups was 70% and 30%, respectively (figure 1). The median CMV-PCR viral load was 1783.5 IU/mL (range 133- 9600 IU/mL), with the earliest CMV reactivation on day -1 of transplantation. The clinically significant CMV infection incidence was significantly higher in patients who did not receive letermovir prophylaxis. Preemptive antiviral therapy was initiated to prevent CMV disease in all indicated recipients. Foscarnet was the preferred first-line pre-emptive treatment option for patients during cytopenia. No CMV disease or CMV-related mortality occurred in our population.

Conclusion:
This is the first report from Qatar to report CMV infection post-allogeneic stem cell transplantation. Future in-depth analysis of our population and treatment responses is needed.

Disclosures No relevant conflicts of interest to declare.

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Table 1 | Recipient, Donor, and Transplant Characteristics	
Male, n (%)	**40 (78.4%)**
Age at HSCT, median (range)	**34 (14-53)**
Diagnosis, n (%)	
AML	**26 (51%)**
ALL	**13 (25.5%)**
CML	**3 (5.9%)**
Other	**9 (17.6%)**
Donor Type, n (%)	
HLA-matched related	**32 (62.7%)**
HLA-haploidentical	**17 (33.3%)**
HLA- mismatched related	**2 (4%)**
Graft Source, n (%)	
PBSC	**50 (98%)**
Bone Marrow	**1 (2%)**
Conditioning Regimen	
MAC	**46 (90.2%)**
RIC	**5 (9.8%)**
Anti-thymocyte globulin use, n (%)	**2 (4%)**
GvHD Prophylaxis	
CsA- MTX	**33 (64.7%)**
CsA-MMF-PTCy	**18 (35.3%)**
GvHD, n (%) [Grade ≥3, n (%)]	
aGvHD	**14 (27.5%) [3 (21.4%)]**
cGvHD	**13 (25.5%) [2 (15.4%)]**
D/R Serostatus, n (%)	
+/+	**50 (98%)**
+/-	**1 (2%)**
Clinically Significant CMV Infection*, n (%)	**26 (51%)**
Days to Clinically Significant CMV Infection, n	
≤100	**25**
>100-365	**1**

Abbreviations: **ALL**: Acute Lymphoblastic Leukemia; **AML**: Acute Myeloid Leukemia; **CML**: Chronic Myeloid Leukemia; **CsA**: Cyclosporine A; **CMV**: Cytomegalovirus; **D**: Donor; **GvHD**: Graft-versus Host Disease; **HLA**: Human Leukocyte Antigens; **HSCT**: Hematopoietic Stem Cell Transplantation; **MAC**: Myeloablative Conditioning; **MMF**: Mycophenolate Mofetil; **MTX**: Methotrexate; **PBSC**: Peripheral Blood Stem Cells; **PTCy**: Post-transplant Cyclophosphamide; **R**: Recipient; **RIC**: Reduced Intensity Conditioning; * CMV disease or CMV viremia leading to preemptive treatment

Figure 1: Cumulative Incidence of CMV Infection

Figure 1