

Coronavirus Disease in Bone Marrow Transplant (BMT) Recipients at Edgardo Rebagliati Martins Hospital (HNERM) Lima-Peru



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Introduction

SARS-CoV-2 and the COVID-19 pandemic have changed hematopoietic stem cell transplantation and medical practices worldwide. This is a single-institution cohort of 221 bone marrow recipients at HNERM in Lima-Peru. Patients were transplanted from January 2019 to December 2020. All were maintained under close SARSCoV-2 vigilance and were followed up until April 2021. We excluded patients who had coronavirus disease prior to transplant.

Materials & Methods

Among patients, 23 (10.4%) developed COVID-19. The detection of the virus based on PCR from nasopharyngeal swabs performed at the presentation of symptoms (fever, cough, and dyspnea) or if clinical/familiar/close contacts with COVID-19 was reported.

Results

We analyzed 109 (49.3%) autologous and 66 (29.8%) fully matched related allografts with methotrexate and cyclosporine as GVHD prophylaxis and 46 (20.8%) haploidentical allografts with post-transplant cyclophosphamide (PTCy). Median age for positive cases was 43.2 years (range 8.7–71.9). M/F ratio was 2/1. Median age for negative cases was 39.4 years (range 3.2–70.3). The median Hematopoietic Comorbidity Index (HCT-CI) score was 1.04 (range 0–5) for SARS-CoV-2-positive cases. COVID-19 disease was more often observed among haplo-identical (7/46, 15.2%), auto-BMT (12/109; 11%) and fully matched related allografts (4/66; 6.06%). Median time from BMT to positive SARS-CoV-2 PCR was 13.3 months (range 5.5–24.5).

Results

Six cases each (26%) were multiple myeloma (MM) and lymphoma (L), 5 cases were ALL (21.7%), 4 cases were AML (17.4%), and 1 case each (4.35%) was MDS and autoimmune disease. Most patients developed mild COVID-19 (n=19; 82.6%), with cough, fatigue, and myalgia as frequent symptoms. Severe COVID-19 developed in 4 cases (17.4%) requiring mechanical ventilation, 2 of whom died. Both of the lethal cases were middle-aged men who received auto-BMT for MM and L at 18.57 and 2.43 months after transplant. The HCT-CI scores were 3 and 1. The mortality rate for SARS-CoV-2 positive patients was 8.7%, much higher than among the general population in Peru (2.84%), but less than in HNERM (46.4%).

Conclusions

Our cohort showed COVID-19 disease in BMT patients is more frequent in men, similar to the general population.

Most of the cases were observed for auto-BMT, specifically among MM and L patients, with similar frequency for both.

References

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