Experience of Toxic Effects in Total Body Irradiation During the Conditioning Regimen for Allogeneic Transplantation in Pediatric and Adult Mexican Patients.

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Introduction

Total Body Irradiation (TBI) is included in the conditioning regimen for allogeneic hematopoietic stem cell transplantation, with advantages such as uniform distribution throughout the body and reduced exposure to chemotherapy. TBI practices are heterogeneous and specific in each institution. TBI has short- and long-term toxicities.

Aim

This study is intended to assess the frequency of adverse effects related to radiotherapy.

Objectives

Determine overall survival, and treatment-related mortality in patients who received a conditioning regimen with TBI.

Methods

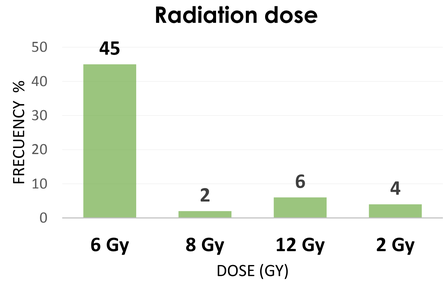
A retrospective study was conducted and approved by the Institutional Review Board. We obtained information from the electronic clinical record,-who received conditioning that included TBI at the ABC Medical Center in México city were evaluated from 2017 to 2024. A descriptive analysis and an overall survival analysis were performed using the Kaplan-Meier method.

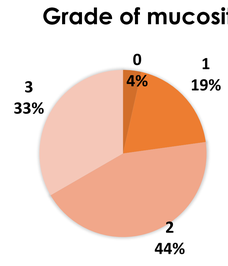
Results

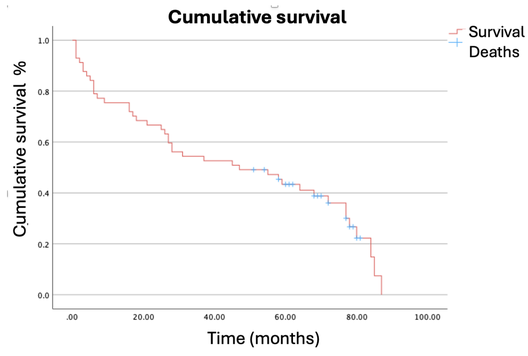
This study included 57 patients, the main diagnosis of admission acute lymphoblastic leukemia in 87.7%. The 66.7 % of the population were admitted in first complete response of the disease. The 78.9 % of population studied were children. The donor was haploidentical in 77.2 %.

The radiotherapy technique used was 50.9 % underwent a 3D model.

This study documents some degree of mucositis grade I-III in 96.5%, 93 % presented any grade of nausea, diarrhea was identified in 57.9 % of patients and dysphagia was identified in 68.4 % of cases. Cutaneous toxicity is present in 30% of cases. The 63.2 % presented with some degree of acute graft versus host disease. Clinical follow-up during outpatient consultations documented late toxicity in 45.6 %.







Summary

It is documented that 66.7% of the population are alive (follow-up 80 months), half-life is 46.2 months (CI 95% , 37.5 -54.9). The 29.9% of the population have died.

Discussion

The safety profile of toxicity related to regimens that include TBI is manageable, being a mainstay of conditioning in transplantation. Within the limitations, it is found that the groups of patients are heterogeneous, making it difficult to compare toxicity; however, it can be considered the dose of 6 Gy in children as standard. There are few centers in Mexico with experience in TBI, therefore prospective studies is necessary.

References

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