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Online Brazilian Journal of Nursing

ENGLISH

Federal Fluminense University

AURORA DE AFONSO COSTA
NURSING SCHOOL



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Clinical, epidemiological and survival profile of transplant recipients with hematopoietic stem cells: a retrospective cohort

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ABSTRACT

Aim: to characterize the clinical and epidemiological profile of patients who underwent hematopoietic stem cell transplantation (HSCT) and to estimate the overall survival of transplant recipients. **Method:** this is a quantitative approach study, of the retrospective cohort, descriptive and analytical type, hospital-based with 272 patients who underwent HSCT in a referral service. **Results:** the profile of the patients presented a discrete male prevalence. The overall survival of transplanted patients showed a statistically significant difference when compared according to sex. Concerning death, the majority occurred in male patients, with a statistically significant difference for those who had been followed for more than seven months and for those who presented acute lymphoblastic leukemia as the main indicative diagnosis for HSCT. **Conclusion:** in relation to clinical variables, the results were similar to those found in similar studies; however, survival rates were relatively low.

Descriptors: Survival Analysis; Delivery of Health Care; Epidemiology; Hematopoietic stem cell transplantation; Bone Marrow Transplantation.

INTRODUCTION

Hematopoietic stem cell transplantation (HSCT) has significantly modified the prognosis of patients with inherited or acquired hematological, oncological and immunological diseases and is the last effective alternative when conventional therapies do not offer a good prognosis⁽¹⁾. It consists of intravenous infusion of healthy hematopoietic progenitor cells (HPC) extracted from bone marrow (BM), peripheral blood (PB) and placental umbilical cord blood (PCB) to restore the marrow and immune function of patients with indication for transplantation, with the possibility of cure or increase in disease-free survival⁽²⁾.

Although the HSCT is used successfully, morbidity and mortality rates related to the procedure in its different phases are detected. Such occurrences may appear from the pre-transplant period, after the HPC graft or during post-transplant recovery, moment when the risk of complications increases, with the possibility of developing graft versus host disease (GVHD) among patients submitted to allogeneic transplantation⁽³⁾.

Because of the complexity of nursing care for patients undergoing HSCT and because there were no studies conducted in the state of Rio Grande do Norte (RN) on the epidemiological, clinical and overall survival aspects of individuals undergoing HSCT, such data justify the accomplishment of this research.

OBJECTIVE

The aim is to characterize the clinical and epidemiological profile of the patients who underwent HSCT and to estimate the overall survival of transplant recipients.

METHOD

This is a descriptive, analytical, quantitative, retrospective cohort-based, hospital-based study involving 272 patients who underwent HSCT at a referral service in the State of New Mexico. The data were collected in the Medical and Statistical Archive Sector between March and September 2016, through registries for procedures performed between 2008 and 2015, for a total of eight years of procedure execution.

For the descriptive analysis, the statistical software R version 3.0.0 was used and for the calculation of the survival probabilities the Kaplan-Meier method was used through the Statistic Package for Social Sciences (SPSS) version 22.0. For the comparison of the survivors between the male and female, the statistical method of log rank was used. The chi-square test of trend was used to calculate the probability of association between the analyzed variables and deaths. The level of significance was set at 0.05.

The Research Protocol was approved in its ethical and methodological aspects by the Research Ethics Committee of the Federal University of Rio Grande do Norte, with approval on July 1, 2015, under opinion no. 1,132,720 and CAAE no. 46202715.7.0000.5537.

RESULTS

Among the 272 charts of patients analyzed, there was a predominance of males (52.94%); mean age was of 38.69 years; 18.38% were brown; and 47.06% were married. According to the clinical characteristics, 23.16% had as main diagnosis multiple myeloma and the most developed toxicities were gastrointestinal (93.38%). All patients were treated with antineoplastic agents and the most frequently performed HSCT

was allogeneic (54.78%), with peripheral blood cells (77.94%) and related donor (71.81%).

Approximately 9% of the patients performed more than one HSCT; 4.04% developed Graft Versus Host Disease (GVHD), among which 54.55% presented the chronic type. The most significant cause of death in death certificates was septic shock (48.19%) and the overall survival of transplant patients was low, with no statistically significant difference when patients were compared, according to sex ($p=0.859$).

Concerning the deaths, they occurred more frequently among the male patients (34.72%), with a higher prevalence in the age group between 21 and 30 years (41.51%), with a statistically significant difference for patients who were over seven months of follow-up (49.30%, $p<0.000$), and for those who presented acute lymphoblastic leukemia as the main diagnosis (43.40%, $p <0.004$).

CONCLUSION

Regarding clinical variables, the most prevalent diagnoses, recurrent toxicities, instituted treatments, types of HSCT, sources of HPC and causes of death were similar to those found in most similar studies. However, there was a disparity in the use of umbilical cord HPC, when research performed in Europe, Asia and the USA had already demonstrate an expressive number of procedures with this type of graft. In addition, the survival rates of the present study were relatively low in relation to the results found in other national and international studies.

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Data de defesa: 13 de dezembro de 2016.

Componentes da banca: Prof. Dr. Marcos Antonio Ferreira Júnior (Presidente – UFRN), Profa. Dra. Allyne Fortes Vitor (Membro – UFRN), Profa. Dra. Viviane Euzébia Pereira Santos (Membro – UFRN), Profa. Dra. Maria Lúcia Ivo (Membro externo - UFMS).

Referência:

AZEVEDO, I. C. Perfil clínico, epidemiológico e sobrevida dos transplantados com células-tronco hematopoéticas. Natal/RN, 2016. 77f. Dissertação (Mestrado em Enfermagem) – Departamento de Enfermagem, Universidade Federal do Rio Grande do Norte, Natal/RN, 2016.

All authors participated in the phases of this publication in one or more of the following steps, in according to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the version submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf

Received: 03/29/2017
Revised: 08/08/2018
Approved: 08/08/2018