



ORIGINAL ARTICLE

Sinonasal disorders in hematopoietic stem cell transplantation^{☆,☆☆}



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KEYWORDS

Sinusitis;
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Abstract

Introduction: hematopoietic stem cell transplantation (HSCT) is associated with more respiratory infections due to immunosuppression.

Objective: this study aimed to verify the frequency of rhinosinusitis after HSCT, and the association between rhinosinusitis and chronic graft vs. host disease (GVHD) and type of transplantation, clinical treatment, surgical treatment, and survival.

Methods: this was a retrospective study in a tertiary university hospital. A total of 95 patients with hematological diseases undergoing HSCT between 1996 and 2011 were selected.

Results: chronic myeloid leukemia was the most prevalent disease. The type of transplant most often performed was the allogenic type (85.26%). The frequency of rhinosinusitis was 36%, with no difference between the autologous and the allogenic types. Chronic GVHD occurred in 30% of patients. Patients with GVHD had a higher frequency and recurrence of rhinosinusitis, in addition to more frequent need for endoscopic sinusotomy and decreased overall survival.

Conclusion: there was a higher frequency of rhinosinusitis in HSCT and GVHD. The type of transplant does not appear to predispose to the occurrence of rhinosinusitis. GVHD seems to be an aggravating factor and requires a more stringent treatment.

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PALAVRAS-CHAVE

Sinusite;
Transplante de
células-tronco
hematopoéticas;
Conduas
terapêuticas;
Doença
enxerto-hospedeiro

Afecções nasossinais em pacientes transplantados de células-tronco hematopoéticas**Resumo**

Introdução: O transplante de células troncas hematopoéticas (TCTH) associa-se a mais infecções respiratórias devido a imunossupressão.

Objetivo: Este trabalho tem o objetivo de verificar a frequência das rinossinites pós-TCTH, a associação entre a rinossinite e a doença do enxerto contra hospedeiro (DECH) crônica e o tipo de transplante e o tratamento clínico e o tratamento cirúrgico e a sobrevida.

Método: Estudo retrospectivo em hospital universitário terciário. Foram selecionados 95 pacientes com doença hematológica submetidos a TCTH entre 1996 a 2011.

Resultados: A leucemia mieloide crônica foi a doença mais prevalente. O tipo de transplante mais realizado foi o alogênico (85,26%). A frequência de rinossinite foi de 36%, sem diferença entre os tipos de transplante autólogo e alogênico. A DECH crônica ocorreu em 30% dos pacientes. Os pacientes com DECH tiveram maior frequência e recorrência de rinossinite, além de mais necessidade de sinusectomia endoscópica e de diminuição da sobrevida global.

Conclusão: Houve maior frequência de rinossinite no TCTH e DECH. O tipo de transplante não parece predispor a ocorrência da rinossinite. A DECH parece ser um fator agravante e necessita de tratamento mais rigoroso.

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Introduction

Currently, hematopoietic stem cell transplantation (HSCT) is used in most tertiary hospitals for treatment of hematologic malignant and non-malignant diseases, immunodeficiencies, and solid tumors.¹⁻⁵ The number of transplantations progressively increases with the improvement and modernization of techniques and drugs used. In Brazil, approximately 12,287 transplantations were performed in the latter half of 2012.⁶

In spite of advances in the transplantation process, patients are still predisposed to multiple upper airway infections and their complications.^{1-5,7,8} Immunosuppressive drugs, chemotherapy, radiation therapy, prolonged antibiotic therapy, graft vs. host disease (GVHD), and long periods of hospitalization are predisposing factors for airway infections described in the literature and observed in the everyday life of these patients.^{1-5,7,8}

It is believed that immunosuppression is obviously the main triggering factor of such infections, since the airway is the location most exposed to the environment and its microorganisms. However, studies have demonstrated a higher prevalence and recurrence of rhinosinusitis in transplanted patients with GVHD.^{5,7,8} There is evidence that alterations in the ultrastructure and on the surface of the respiratory epithelium occur, as well as immunosuppression. Therefore, in addition to the absence of immune protection, there is an alteration on the surface and in the mucociliary clearance, increasing the vulnerability to airway infections in these patients.^{9,10}

Supplementary examinations greatly assist in the diagnosis of rhinosinusitis in transplanted patients, especially nasal endoscopy.^{4,5,7,8} Computed tomography is used primarily to plan the surgical treatment; however, it does not appear to be useful to predict the occurrence of rhinosinusitis after transplantation.¹¹⁻¹⁴

Isolation of the infectious microorganism through cultures or by direct screening is important to determine the drug therapy and even the surgical treatment, due to the existence of more diversified and resistant microorganisms, including fungi.^{4,5,7}

The treatment of rhinosinusitis in transplanted patients must be established more promptly and should involve the use of broad-spectrum antibiotics for a long period.^{2-5,7,8,10} More predisposed patients, such as those with GVHD, are candidates to endoscopic sinusectomy in recurrent rhinosinusitis.^{4,5,7,15}

This study aimed to analyze, firstly, the profile of patients treated in this department by assessing the frequency of rhinosinusitis after HSCT, and secondly, the association between rhinosinusitis, GVHD, the type of transplantation, as well as the clinical and surgical treatment of such rhinosinusitis.

Materials and methods

This was a retrospective study performed in a tertiary university hospital. A total of 95 patients with hematologic diseases submitted to HSCT were selected. They were treated at the Otorhinolaryngology-Head and Neck Surgery Outpatient Clinic from 1996 to 2011. Inclusion criteria were all types of HSTC, adult patients, and any otorhinolaryngology complaint. Pediatric patients and those who were not submitted to a transplant were excluded.

The variables studied were hematological disease, type of transplantation, rhinosinusitis occurrence and GVHD, alterations in the computed tomography (CT) scan of the paranasal sinuses and nasal endoscopy, type of clinical treatment, need for sinonasal surgery, and overall survival time. These data were collected from medical records and

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