



Associated Factors with Gastrointestinal Bleeding Secondary to Graft-Versus-Host Disease in Children of the Instituto Nacional De Pediatría from January 2010 to January 2017

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Introduction

Gastrointestinal bleeding for graft versus host disease is a frequent etiology at pediatrics group. The most described associated factor is gastrointestinal infections but must to search too coagulation profile, platelets count, for this reason we realize a study at instituto nacional de pediatría that include children with bone marrow transplant with bleeding and search this described factors.

Objectives

- Identify the associated factors with gastrointestinal bleeding in GVHD of patients who received a hematopoietic cell transplant from January 2010 to January 2017.
- Characterize the population included according to sociodemographic variables such as age and sex.
- To quantify the patients who received hematopoietic cells transplantation and who have developed Intestinal Graft versus host disease whose manifestation is High /low digestive tract bleeding.
- Establish if the manifestations of GVHD are acute or chronic.
- Identify the presence or absence of infectious, hematological, and immunological processes associated with their episode of bleeding.

Material and Methods

Observational, descriptive and transversal type. Sample population: Clinical records of patients from 0 to 18 years old with a diagnosis of acute and / or chronic GVHD that come due to bleeding from the gastrointestinal tract to evaluation at Instituto Nacional de Pediatría (INP) Eligible Population Clinical records of patients from 0 to 18 years of age who underwent hematopoietic cell transplantation, who subsequently developed high and / or low digestive tract bleeding. Location of the Study Clinical records of patients seen in the Pediatric Gastroenterology Diagnostic Unit of the Gastroenterology Department at INP, in Mexico City. Inclusion criteria Clinical records of patients from 0 to 18 years of age, any gender who underwent height endoscopy, colonoscopy and / or rectosigmoidoscopy for suspected acute and / or chronic GVHD due to bleeding from the upper and / or lower digestive tract, who met criteria diagnosis of acute GVHD GI confirmed by histopathological study, with definitive findings of GVHD (glandular apoptosis). Exclusion criteria - Incomplete clinical records.

Study Procedure

The file number of pediatric patients with hematopoietic cell transplantation during the periods January 2010 to January 2017 was requested in the clinical file service. It was verified if these patients who had received TCHP developed graft disease against the gastrointestinal host detected by biopsy of any intestinal segment where cellular apoptosis was identified. After identifying these patients, we included those who developed high digestive tract bleeding and / or low those who underwent high and / or low diagnostic endoscopy; we proceeded to review their laboratories as well as their infectious profiles to establish an association between infections, haematological alteration that drived to digestive tract bleeding. The endoscopic findings were obtained from the descriptive section of the endoscopic procedure report of the clinical file. A database was made in the IBM SPSS Statics 21 program, including the variables described, and once the desired data was obtained, the statistical analysis was performed.

Statistical Analysis

Once the data were collected, they were coded and entered, in a database in SPSS 21 version, for tabulation. Of the qualitative variables, such as: sex, diagnosis that caused the transplant, associated infections, clinical symptoms and endoscopic findings, frequencies and percentages were obtained. From the quantitative variables, a shapiro-wilk test was performed to determine normal distribution. For variables with normal distributions, standard means and deviations were obtained, as well as minimum and maximum values. Of the variables without normal distribution, medians, quartiles and quartile intervals were obtained. The data are presented in frequency tables, percentages and sector charts.

Results

We reviewed 285 records corresponding to transplant patients during the period from January 2010 to January 2017, from which we selected patients who presented high and / or low digestive tract bleeding, choosing 18 patients who presented episodes of gastrointestinal bleeding under 14 males (77%) and 4 females (22%), the bleeding was macroscopic in 7 patients (38.8%) and the remaining 11 (61%) bleeding was detected in fecal matter with fecal occult blood. - The mean age in days of gastrointestinal bleeding in intestinal GVHD was 120 days, with a median of 115 days and a range of 216 days with a minimum range of 24 days and a maximum of 240 days. - Among the most frequent symptoms, most patients had diarrhea with 83%, followed by abdominal pain 50%, nausea and vomiting with 44.4% in both, rectal bleeding in 38.9% and finally with distension in 5.6%. - Diagnoses that led to bone marrow transplantation were mostly non-neoplastic hematological diseases in 7 children 38% (2 wiskott aldrich syndrome, 2 fanconi anemia, 2 red series aplasia and 1 with B thalassemia major), hematological neoplastic diseases in 6 patients 33% (acute lymphoid leukemia in 5 children and acute myeloid leukemia in 1 child), immunological diseases in 27% (hyper IgM syndrome 1 child, severe combined immunodeficiency in 2 children, congenital neutropenia 2 children), other 5% diseases (granulomatous disease in 1 child). - The most frequent infectious agent in these patients with digestive tract bleeding was EBV, followed by CMV and BK virus in the same percentage for both 12.1%, followed by adenovirus in 9.1% of the cases, later the least frequent were E. Coli , campylobacter jejuni, guard, JC virus each with 6.1% frequency, and finally blastocystis hominis, salmonella and Herpes virus in 3% both.

Discussion

In this study only patients with digestive tract bleeding were included, excluding 267 patients, the sample was only 18 children, with whom it is not possible to establish a significant statistical association, for which the analyzes are performed based on the established variables only frequently and averages. In all cases, infections were documented differing from those reported in the literature where the most frequent are cytomegalovirus and clostridium difficile, in this study the most frequent was Ebstein Baar virus, as well as bacterial infections, E. coli was more frequent. Of clostridium difficile, given that all were infected, it cannot be inferred that this was a specific cause with a causal association of gastrointestinal bleeding. Platelet levels as well as coagulation times cannot be associated, since only 4 children had thrombocytopenia and despite this, all had low digestive bleeding. In fact, clotting times were within normal, therefore it is not considered a factor that favors episodes of bleeding from the digestive tract. However, the average age of bleeding in the digestive tract was 10 years, however this is not relevant to establish a factor associated with these events. More studies should be done to establish if infection is really a triggering factor. More studies should be done to establish if infection is really a triggering factor.

Conclusion

Due to a not significant sample, it is not possible to establish great associations in causal factors of digestive tract bleeding, for which reason it is considered this study offers an orientation to carry out new studies preference of cases and controls in order to establish a causal association with patients exposed and not exposed to said factor that is probably associated with episodes of gastrointestinal bleeding in graft-versus-host disease after a hematopoietic cell transplant.

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