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1. INTRODUCTION

The Brazilian Registry of Volunteer Bone Marrow Donors (REDOME) started its activities back in 1993; since 2000, it has been part of the National Transplant Policy of the General Committee of the National Transplant System (CGSNT) under the Ministry of Health (Laws No. 9,434 and No. 10,211/2001), based on principles such as free donations, beneficence towards recipients and non-maleficence towards living donors, subject to the technical coordination and management of the National Cancer Institute (INCA).

REDOME's operational activities are carried out by a team of employees assigned to the National Cancer Institute (INCA) in Rio de Janeiro; these activities, aimed at serving volunteer donors and patients, remain under the direct management of INCA, and can be summarized as follows:

- Maintaining a unified registry containing information of all volunteer donors and patients applying for unrelated hematopoietic stem cell transplantations;
- Selecting and identifying compatible donors for Brazilian patients referred to unrelated hematopoietic stem cell transplantation, which includes requesting laboratory and clinical procedures from international registries;
- Logistics of biological samples and volunteer donors, for the purpose of collecting cell products for transplantation.

REDOME's funds are managed by the Ministry of Health. The registry runs with public funds and the proceeds of its activities, considering good governance a critical aspect for the conduction of this activities, as well as good management.

This Compatible Donor Selection and Identification Policy, developed for the purpose of unrelated hematopoietic stem cells transplantation, sets forth the principles of equity, transparency of information, sharing of responsibility, the right to privacy and the technical and ethical aspects of decision making, as pertaining to this activity.

2. PURPOSE AND SCOPE

This document aims to establish the principles, responsibilities and procedures related to the selection and identification of compatible donors for the purpose of unrelated hematopoietic stem cell transplantation; accordingly, it is intended for all employees of REDOME, public servants of INCA and the Ministry of Health, donors and patients treated by REDOME, health professionals and society in general.

3. PRINCIPLES

3.1. Equity

The REDOME team works to ensure that all patients have the same chance of identifying a compatible donor, without promoting any type of discrimination or favoritism.

An information system grants access to the registry to patients from all over the country, through the internet. So, even in states where there are no specialized transplant centers, patients can start this process.

Urgent cases may be prioritized for the selection of compatible donors, at the discretion of the medical team in charge, and in accordance with the scientific literature.

3.2. Transparency

REDOME guarantees that the medical team responsible for the patient has access to all information concerning the compatible donor identification process, through the exchange of electronic messages.

3.3. Sharing of responsibilities

The medical team is responsible for registering and maintaining the patient's record, ensuring the continuity of the search activities, as well as approving, together with the REDOME technical team, the donors selected for transplantation, in addition to ensuring the completion of additional tests on patients.

Laboratories accredited by the Ministry of Health run histocompatibility tests (HLA) for donor and patients.

3.4. Right to privacy

The compatible donor selection and identification process runs anonymously - the patient or medical staff will not have access to any information about the donor's identity; the donor, in turn, will not have any personal information about the patient either.

In this sense, REDOME works to ensure the privacy of patients and donors, so the information shared about them is limited to the identification code used by REDOME, their initials, age, gender, weight and essential health information.

4. COMPATIBLE DONOR SELECTION AND IDENTIFICATION PROCESS

4.1. What is compatible donor selection and identification?

The process of selecting and identifying compatible donors for the purpose of transplantation of unrelated hematopoietic stem cells, generically called "search", corresponds to the technical and operational activities performed by REDOME, considering the technical criteria that define the compatibility between recipient (patient) and donor.

This process begins with the patient's registration in an information system (REDOMENET), which will allow the REDOME technical team to identify and select possible compatible donors, who will undergo complementary tests to confirm their compatibility.

Registration corresponds to the inclusion of personal data, clinical data to indicate how urgent is the transplant, and the HLA typing, which should be at the best possible resolution level - REDOME recommends the registration of the patient with HLA-A, B, C, DRB1, DQB1 and DPB1 typing, in high resolution.

Once donor compatibility and availability are confirmed, the patient's medical team will be able to arrange a transplant appointment.

4.2. Can any patient apply for donor selection for unrelated transplantation?

The registration of patients for the selection and identification of compatible donors for the purpose of transplantation of unrelated hematopoietic stem cells must meet the criteria established in the Technical Regulation of the Ministry of Health.

Unforeseen cases must be evaluated by the General Coordination Board of the National Transplant System.

The REDOMENET information system notifies their physician if the patient's record indicates a clinical condition precluding them from this process.

4.3. What is the chance of finding a compatible donor?

The chance of finding a compatible donor mainly depends on the patient's genetic histocompatibility (HLA) characteristics. Therefore, some patients have a greater chance of identifying a compatible donor, given their HLA genes.

International data indicate that about 10% of patients do not have a suitable donor for transplantation; however, this number may be higher in some groups with particular ethnic characteristics, and vary between countries.

4.4. How long does the process of selecting and identifying a compatible donor take?

The process of selecting and identifying compatible donors is simultaneous for all enrolled patients, therefore, there is no “queue” at REDOME, and current data indicate an average of 60 for completing this process.

Nevertheless, depending on the patient's genetic characteristics (linked to compatibility) and the timeframe of some complementary compatibility tests, some patients may complete the search for a compatible donor before others.

4.5. What are the criteria used for the selection of a compatible donor for unrelated transplantation?

The selection of compatible donors is based on well-established technical and scientific criteria, in order to ensure the best outcome for patients. It uses sophisticated algorithms that attempt to anticipate the probability of a given donor being a match for a patient, based on available information (predictive algorithm).

Currently, the criteria include HLA-A, B, C, DRB1 and DQB1 high resolution compatibly, and can accept up to a (10x10 or 9x10) mismatch. Additional criteria such as HLA-DPB1 compatibility or B Leader polymorphism may be considered, at the discretion of the transplant team.

In case of incompatibility, screening for anti-HLA antibodies against the donor (DSA) is also recommended.

The age of the donor, preferably younger ones, is also a well-established criterion in the scientific literature, while other characteristics such as the donor's gender and blood group can be considered in special situations.

4.6. When does the search in international registries begin?

The consultation of international registries occurs at the beginning of the compatible donor selection process, simultaneously with the search in the REDOME registry. Through research with some international registries and the WMDA (World Marrow Donor Association), REDOME guarantees access to more than 39 million registered volunteer donors worldwide.

If there are donors with the same degree of compatibility both in REDOME and in any international registry, it is preferable to select the national donor, although this criterion may be reconsidered, depending on the urgency of the transplant.

4.7. How does the patient have access to information about the donor selection process?

All information about the selection and identification of compatible donors is shared with the medical team responsible for the patient's registration, through the electronic address provided by the physician in charge.

In order to ensure patient safety and privacy, REDOME does not provide information about this process over the telephone to patients or their family members.

The patient will be informed about the situation in the registry and the identification of compatible donors exclusively by the medical team.

4.8. What could delay the process of selecting and identifying compatible donors?

The process begins with the identification of possible compatible donors, based on the information available in the donor registry. From this stage, the deadlines for the execution of the various subsequent activities are as follows:

- Patient complementary/confirming HLA typing (variable);
- Medium resolution complementary/confirming donor HLA typing (14 days);
- High resolution complementary/confirming donor HLA typing (21 days).

Contacting donors in the most advanced stages is also a great challenge for REDOME, since they could be contacted many years after their registration. This contact takes place within 8 days after the request, and to increase the chance of locating a donor, REDOME has a specialized team dedicated exclusively to this activity, in addition to the support of blood centers.

Once they are localized by REDOME, only 10% of donors cannot proceed with the donation process, which is often attributed to health issues.

REDOME monitors the execution of contact activities and compatibility tests, through operational and strategic indicators, in order to improve the results of these processes.

4.9. How are umbilical cord units selected?

The selection of umbilical cord units considers the units available in Brazil (Brasilcord), but also in international registries, depending on the indications of the medical team.

The compatibility of umbilical cord units considers HLA-A, -B and -DRB1 loci in high resolution, accepting up to two mismatches (6x6, 5x6, 4x6), although this criterion may be reviewed by the medical team, in addition to the cellularity of the cord, relative to the patient's weight.

In case of incompatibility, screening for anti-HLA antibodies against the donor (DSA) is also recommended.

4.10. What happens once the identification process is complete?

After completion of the confirmatory tests, REDOME informs the responsible medical team and sends a report with the results of the patient and donor compatibility tests. From this moment on, the medical team must inform REDOME about the date to be scheduled for the transplant.

4.11. What happens when a patient does not have a compatible donor?

After the possibilities of a compatible donor are exhausted, the medical team is informed by REDOME.

The patient's record remains on REDOMENET and, according to the updates provided by the medical team, the compatible donor selection process will be updated every 3 months, through a new consultation with REDOME and international registries. The result of this new search is then reported to the medical team.

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