

OID-03

Arranging bone marrow donor registry in Sakha Republic (Yakutia)

Vilena V. Gerasimova ^{1,2}, Nadezhda V. Savvina ², Aitalina S. Golderova ²

¹ State Budgetary Institution of the Republic of Sakha (Yakutia) "Blood Transfusion Station", Yakutsk, Russia; ² M. K. Ammosov North-Eastern Federal University, Yakutsk, Russia

Contact: Dr. Vilena V. Gerasimova, phone: +7 (914) 233-11-67, e-mail: virllab@mail.ru

Introduction

As multinational Russian population consists of people with vastly different HLA phenotypes, the bone marrow donors' registry should include as many donors from local populations as possible. Each year Republic of Sakha, Yakutia (RS, Y) 5-6 adults and 2-3 pediatric candidates for hematopoietic stem cell transplantation (HSCT) are registered by hematologists, and the number of patients with hematopoietic and solid tumors potentially requiring transplant gradually increase. The HLA alleles frequencies in Yakutia differ significantly from those observed in most donors from Russian population [Fefelova V.V., 2015]. However, this data may help to form a Registry for potential unrelated donors based on HLA combinations most often seen in HSCT recipients from Yakutia making the matched donor occurrence more probable. While general probability of donor selection in overall Russian Federation registry is 1 in 50000, the national Registry provides 1 potential donor in 5000.

Materials and methods

According to 2010 census the Russian population consists of more than 80% of Russians, while Yakuts account for 0.33% only. Sakha (Yakutia) population encompasses 126 different ethnic communities with most numerous being Yakut one (466.5 thousand or 48.7%), Russian (38%), and some indigenous ethnic groups like Evenks (2%), Evens (2%), Yukaghirs (0.6%) and other small ethnic communities comprising a total of 6%. According to current practice, most local donor registries are formed on the basis of blood banks as there already exists infrastructure for bloodborne infections assessment and there already are motivated donors in communication with blood bank ready to be recruited.

Results

Within the year 2019, Sakha (Yakutia) Laboratory Medicine Forum framework there was a round table dedicated to blood banking laboratory service improvement,

in which took part a number of leading experts in the field (Godkov M.A., Shcherbo S.N., Dolgikh T.I. and others). The final decision was to create a regional bone marrow donors database. Also, this initiative found a strong support from non-profit Female Yakutia Scientists League headed by N. V. Savvina. In 2020, the initiative was supported by 2.57 million rubles from the RS(Y) administration grant used to provide equipment for preliminary HLA typing (Bio-Rad CFX-96) and a thermocycler for blood-borne infections screening in potential donors. The initiative was also promoted by volunteers (mostly medical students) on regular basis by a series of events like schools, quizzes, quests, flash-mobs, lectures, etc. In 2017, the search for potential bone marrow donors for a patient named Maria S. was initiated. A total of 662 samples were collected in 3 days by a local blood bank and screened for suitable HLA alleles. Unfortunately, the compatible donor was not found at screening of this sample series. There is currently a registry of potential bone marrow donors in RS (Y), which consists of more than 100 people of different ethnicities. In August 2021, an agreement was signed with Kirov Research Institute of Hematology and Blood Transfusion. Soon, only one month after the regular HLA typing was initiated (in September 2021), the first HLA-matched donor was found for Yakutia patient. He was among the first 16 potential donors recruited, which probably was an indicator of high local registry effectiveness for RS(Y) patients.

Conclusions

Considering the complex combination of different ethnicities seen in Sakha Republic population characterized by abundance of rare HLA haplotypes not seen in most Russian donors, it is necessary to further develop a local potential hematopoietic stem cells donors Registry.

Keywords

Registry, donors, bone marrow, Republic of Sakha (Yakutia).

Создание регистра доноров костного мозга в Республике Саха (Якутия)

Вилена В. Герасимова ^{1,2}, Надежда В. Саввина ², Айталиня С. Гольдерова ²

¹ ГБУ РС(Я) «Станция переливания крови», Якутск, Россия; ² ГАОУ ВО «Северо-Восточный федеральный университет им. М. К. Аммосова», Якутск, Россия

Введение

Для многонационального состава Российской популяции особенно актуально включение в национальный Регистр представителей самых различных национальностей. Нуждающихся в трансплантации гемопоэтических стволовых клеток (ГСК) ежегодно по данным онкогематологов РС(Я) насчитывается около 5-6 взрослых и 2-3 детей. Заболеваемость солидными опухолями, гемо-

бластомами, при которых требуется пересадка костного мозга среди детского населения, ежегодно увеличивается. При сравнении частоты встречаемости HLA-аллелей по локусам HLA, якуты значительно отличаются от выявленных профилей частот встречаемости у потенциальных доноров русской национальности [Фефелова В.В., 2015]. Данные о частоте встречаемости аллелей и гаплотипов в различных популяциях могут ис-