

LETTER TO THE EDITOR

The capacity-building approach was successful in the start-up process of the first HSCT center in Iraqi Kurdistan

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The start-up of new HSCT centers in low-middle income countries (LMIC) has received little attention, due to a lack of local resources and expertise,¹ despite a high frequency of malignant and non-malignant conditions, such as thalassemia and sickle cell disease, requiring transplantation. As a result, many patients are forced to go abroad when a transplant is needed, with major problems for their families and the governments.

In 2016, the Italian Agency for Development Cooperation (AICS) funded our project for the start-up of a HSCT center in the city of Sulaymaniyah, Iraqi Kurdistan. This autonomous oil producing region with a population of 8 million has entered a deep economic crisis due to the conflict with the Islamic state, with a million Syrian and Iraqi refugees seeking shelter in its territory. The project was based at the Hiwa Cancer Hospital (HCH), a major institution in the country. An Italian team of volunteers undertook the project, and the center is now autonomous and has a standard practice of autologous and allogeneic transplants. We wish to emphasize that the approach employed was designed to embed a self-sustainable activity.

Initially, using an appropriate grid, the adequacy of the HCH was verified. A capacity-building project was then designed, submitted and funded by AICS. This was aimed mainly at thalassemia major allogeneic transplantation. However, autologous and allogeneic HSCT for hematologic malignancies soon also became a priority. We utilized a HSCT unit with six HEPA-filtered, positive pressure air sterile rooms, that was already available at HCH, but had never been used for this purpose, due to lack of expertise.

Capacity building is the process by which individuals, organizations, institutions and societies develop abilities to perform functions, solve problems and achieve objectives.² In our project, this approach addressed the implementation of a sustainable HSCT program by the providing experts in all the key areas of HSCT, adult and pediatric hemato-oncology, transfusion medicine, apheresis, infectious diseases, nursing, cell manipulation, molecular biology and biophysics. All members of the team were qualified volunteers from major Italian institutions.

At the end of 2015, an incidental fire severely damaged the HSCT building. During the restoration works, we launched the training program in Sulaymaniyah, running an intensive course for the local personnel, implementing the coaching method for nurses and doctors, and editing most of the HSCT protocols in line with Joint Accreditation Committee ISCT EBMT (JACIE) standards.

All the activities were planned in agreement with the HCH, with full involvement of the local personnel. The lack of a priority scale, the absence of teamwork as well as an appropriate methodology for problem-solving, decision-sharing and quality management were the main obstacles, and appropriate efforts to address these were applied. A responsibility tree was approved. An infection control policy was developed, and a separate 'clean' area of the hospital was identified, which enabled the start-up of autologous

transplant activity prior to the conclusion of the HSCT center restoration works. The process of stem cell mobilization, collection, counting and cryopreservation was quickly set up,³ and the clinical transplant program rapidly started.

The first autograft was successfully carried out in June 2016 in a man with myeloma. Afterwards, more autografts were performed in patients with lymphoma and acute leukemia. Meanwhile, the pediatricians transplanted a β -thalassemia major child from her HLA-identical sister. This transplant opened the way to more allografts, not only in thalassemia, but also in acute leukemia.⁴ Overall, up to now, 33 autologous and 9 allogeneic transplants have been carried out, with just two transplant-related deaths.^{5,6} Following this initial success, the HCH transplant team was admitted as a full member in the European Society for Blood and Marrow Transplantation (EBMT). Although the project ended at the beginning of 2017, we have been able to extend the cooperation into the field of childhood leukemia, thanks to a new project that has now been funded by AICS.

To ensure that the new center at the HCH could function rapidly, we operated on-site and adopted the capacity-building approach. On-site training and coaching represent an innovative, flexible, day by day evolving method to establish a sustainable activity in LMIC, while traditionally in the past, local professionals were brought to specialized center(s). With all the current limitations to immigration, more projects based on capacity building on-site will be developed in the future. At the HCH, we had an opportunity to develop the personnel training and manage the protocols from the beginning, showing that HSCT can rapidly be developed even in difficult contexts, provided a correct strategy—namely the capacity-building approach—is applied early.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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