

# Cyclophosphamide, old dogs with new tricks?

March 30 2016

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Key opinions leaders in the field of haematopoietic stem cell transplantation (HSCT) will address the role of Cyclophosphamide, an anti-cancer chemotherapy drug, during the 42nd Annual Meeting of the European Society for Blood and Marrow Transplantation (EBMT) that will welcome more than 4,500 delegates in the host city of Valencia, Spain from the 3rd to the 6th of April 2016.

Allogeneic bone marrow or stem cell transplantation is a curative treatment for many patients with yet incurable blood cancers. One major limitation of this therapy is the need to find a fully matched or compatible donor. Unfortunately, only a minority of the patients can have access to such fully matched donors.

Since the early development of allogeneic bone [marrow transplantation](#), physicians attempted to use partially matched or mismatched donors in order to circumvent the lack of donors. However, the initial experience with such mismatched donors proved to be disappointing, mainly because of an excess rate of major and deleterious transplant-related complications such as graft rejection, and graft-versus-host disease (GVHD). In the case of GVHD, the immune cells of the graft/donor will attempt to attack the cells of the patient/recipient.

Over the last 5 years, based on studies performed by researchers at the John Hopkins hospital in the USA, the use of high doses of an old chemotherapy drug called cyclophosphamide proved to be able to selectively kill the reactive immune cells of the graft infused to the patient, limiting thereby the severity of the GVHD reaction. The

demonstration of the capacity of cyclophosphamide to control GVHD immediately paved the way for the use of the so-called mismatched donors. Obviously, a patient is always at least half compatible or matched with his biological parents or children. "This represents a major turning point in [stem cell transplant](#) practice since when considering parents and children, a great majority of patients will have access to a suitable donor" said Pr Mohamad Mohty, President of the EBMT, and head of the Haematology department at the Saint-Antoine hospital in Paris, whose team pioneered the introduction of such advance into routine clinical practice.

During the EBMT Annual Meeting, many sessions and international speakers will discuss in depth the rejuvenated role of cyclophosphamide in stem [cell transplantation](#). "It is a truly exciting era for all of us in the field" added Pr Mohty. "It is clear today that many patients can quickly find a donor and proceed into transplantation; this is definitely great news because blood cancers require rapid interventions" further highlighted Pr Mohty. "But this is only the beginning of the adventure" he declared, because [cyclophosphamide](#) is now also being investigated in non-malignant but still debilitating diseases such as sickle cell disease or Thalassemia.

The first session on this topic entitled "Cyclophosphamide as a backbone for GVHD prophylaxis" will take place on Monday 4 April at 9:00, with key international speakers including Jose Luíz Diez (Spain), Andrea Bacigalupo (Italy), Jorge Gayoso (Spain), Christof Scheid (Germany).

**More information:** [www.ebmt2016.org/](http://www.ebmt2016.org/)

Provided by European Society for Blood and Marrow Transplantation

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