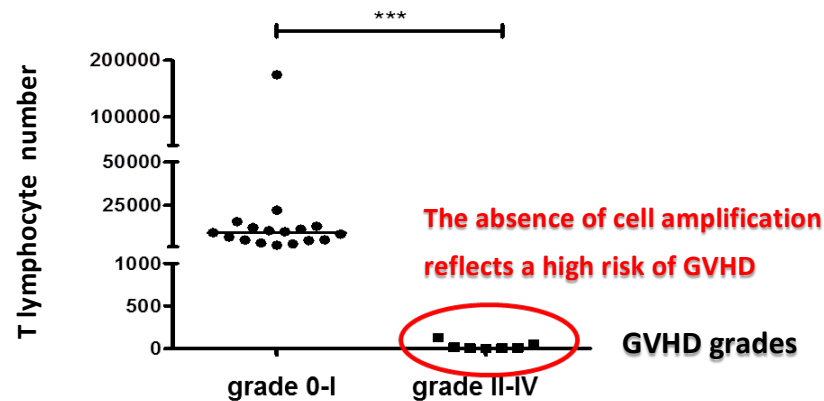


TECHNOLOGY OFFER

007 - Prediction of acute graft host disease and donor selection based on a cell culture kit



Comparison of T-lymphocyte cells /well on day 15 of culture from PBSC grafts (n=24 with 7 grade II-IV acute GVHD) of patients developing grade 0-I versus grade II-IV acute GVHD © Olivier Hermine

PROBLEM Acute graft versus host disease (GVHD) is the main source of morbidity and mortality for patients after allogeneic hematopoietic stem cell transplantation but it cannot be predicted.

SOLUTION Provides a reliable detection method for selecting, before transplantation, appropriate donor that will not initiate GVHD.

Acute graft versus host disease (GVHD) is caused by the reaction of some immune cells contained in the grafted hematopoietic stem cells against the host. Up to now, despite the use of donor selection criteria (HLA histocompatibility, sex, age and medical history), there is no efficient way to predict acute GVHD. It was recently found that the amplification capacity of a rare T lymphocyte subpopulation in the graft was correlated to the occurrence and severity of GVHD. **The present offer proposes a kit for the prediction of grade II to IV acute GVHD based on the culture of these immune cells.** Their amplification predicts a reduced risk of GVHD while an absence of cell amplification reflects an enhanced risk of severe GVHD.

Competitive advantages

- 1st accurate GVHD prediction method
- 1st developed kit based on T lymphocyte culture
- Simple and robust in vitro diagnostic method (processing in hospital labs)

Development Stage and IP

- Priority patent application: filed on Nov. 21, 2012; O. Hermine et al.
- Development stage: preliminary validation in a group of 50 patients (100% predictivity), multicentric clinical trial in preparation
- Remaining development: diagnostic kit cGMP validation, final clinical validation study, industrialization

Applications

- Prevention of acute GVHD
- Hematopoietic stem cell transplantation

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