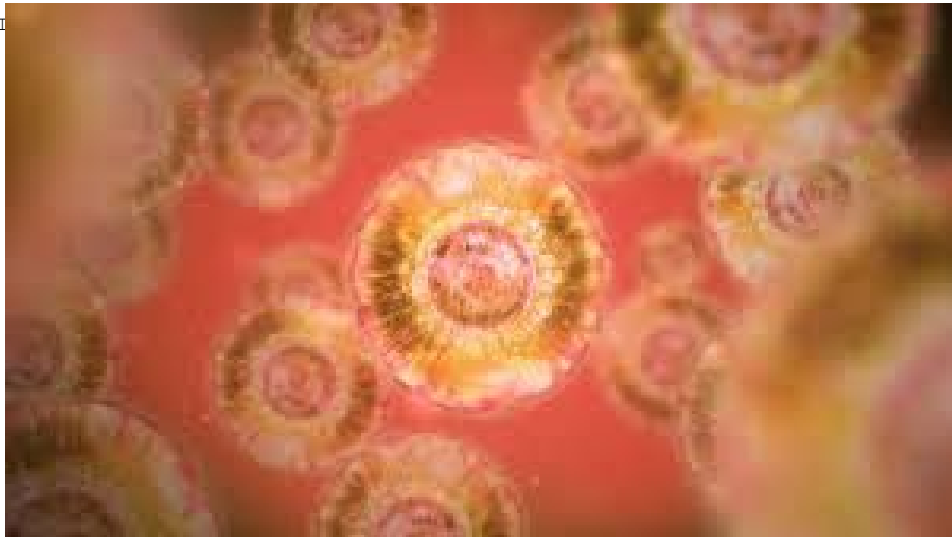


# Biomarkers for early detection of a GVHD disease



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Keywords

haematopoietic stem cell transplantation; biomarker; acute graft-versus-host disease (aGVHD); CD163, SIGLEC1; CCL3; CXCR3; CD70; monocytes; cytotoxic T cells; peripheral blood mononuclear cells (PBMCs)

Intellectual Property

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Description

Acute graft-versus-host disease (aGVHD) is a dreadful complication which affects nearly half of allo-HSCT recipients causing a rejection of their skin, gut, and liver tissues by the donor T-cells

Identifying patients who will develop immune complications related to allogeneic hematopoietic stem cell transplantation (allo-HSCT) is crucial.

The method allows the detection of aGVHD before the onset of clinical symptoms and focuses on detecting changes in expression or activity of the following biomarkers, measured in a biological sample such as peripheral blood, and compared to a baseline or control sample for referenc. The monocyte subpopulation markers are SIGLEC1 (CD169), CD163, CCL3 (MIP-1 $\alpha$ ). The Cytotoxic T lymphocyte (CTL) markers are CXCR3 and CD70.

Advantages

- minimally invasive monitoring and risk stratification during the critical early post-transplant period (ab 100days)

- early detection and intervention, potentially improving patient outcomes and reducing the occurrence and/or severity of aGVHD progression.

Applications

- Treatment of host cells before reintroduction
- Risk stratification of allo-HSCT recipients for aGVHD
- Longitudinal immune monitoring post-transplant
- Companion diagnostic for anti-CD163 or immunosuppressive therapies
- Stratification of clinical trial participants for GVHD prevention trials
- flow cytometry or CyTOF for clinical diagnostics
- Cell therapy quality control via immune activation profiling
- Guidance of targeted monoclonal antibodies therapies (against CD163 or molecules modulating monocyte and T cell activation profiles.