Biomarker detects graft-versus-host-disease in cancer patients after bone marrow transplant

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A University of Michigan Health System-led team of researchers has found a biomarker they believe can help rapidly identify one of the most serious complications in patients with leukemia, lymphoma and other blood disorders who have received a transplant of new, blood-forming cells.

Known as a hematopoietic stem cell transplant, these patients receive bone marrow or peripheral blood stem cells from a matched donor who is either a family member or an unrelated volunteer.

The most common fatal complication of this type of transplant is graft-versus-host disease (GVHD), where the newly transplanted immune system of the donor attacks the patient's skin and internal organs. Up to 30 percent of recipients develop GVHD in their gastrointestinal tract, which is the organ most resistant to treatment.

Without invasive tests such as biopsies, however, GVHD can be difficult to distinguish from other causes of gastrointestinal distress, such as infection or side effects from medication.

The U-M team tested blood samples from over 1,000 patients who were treated in Ann Arbor, Germany and Japan.

"We believe we've found a reliable biomarker in the patients' blood that

is specific to graft-versus-host disease and therefore can help us to rapidly identify patients for whom standard treatment is likely to be insufficient," says James L.M. Ferrara, M.D., co-lead author of the study and director of the U-M Combined Blood and Marrow Transplant Program. "This marker can also tell us whether a patient is likely to respond to therapy and may lead to an entirely new risk assessment for the disease. The findings were recently published online ahead of print publication in the journal *Blood*.

The marker, known as regenerating islet-derived 3-alpha (REG3-alpha), doesn't prevent patients from still needing a biopsy, Ferrara cautions, but taken with other predictive indicators, it could help doctors to ensure patients get the most appropriate treatment as early as possible.

Doctors at U-M hope to start using the test clinically in early 2012.

More information: "Regenerating islet-derived 3 alpha is a biomarker of gastrointestinal graft-versus-host disease," bit.ly/mR9daf

Provided by University of Michigan Health System