Bone marrow transplant patients may benefit from new immune research

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Bone marrow transplant (BMT) researchers at The Medical College of Wisconsin Cancer Center in Milwaukee may have found a mechanism that could preserve the leukemia-killing effects of a transplant graft, while limiting the damage donor immune cells might do to the recipient host's vital organs.

"Our results suggest that targeting of interleukin 23, (IL-23), an immune substance secreted by donor marrow cells, may be a viable way to limit graft-versus-host-disease without limiting graft-versus-leukemia activity," says lead researcher Rupali Das, Ph.D.

The study was presented at the national BMT Tandem Meetings in Tampa, Fla., Feb. 11, 2009, and was among those receiving the highest scores from the abstract review committee. Dr. Das is a postdoctoral fellow in pediatric hematology/oncology at the Medical College in the laboratory of William R. Drobyski, M.D., professor of medicine in neoplastic diseases, and principal investigator of this study. Dr. Drobyski practices at Froedtert Hospital.

In a recent study, the researchers found that donor mice with marrow cells incapable of producing IL-23, provided protection from graft-versus-host damage to the recipient's colon, but not to other organs.

They then conducted studies in which mice with leukemia received T cells from the marrow and spleen of IL-23-deficient donor mice. The recipient mice not only had longer survival times than those receiving T-cells from IL-23-producing mice, but also showed no evidence of leukemia. Mice transplanted with T cells capable of producing IL-23 all died of graft versus host disease.

Source: Medical College of Wisconsin