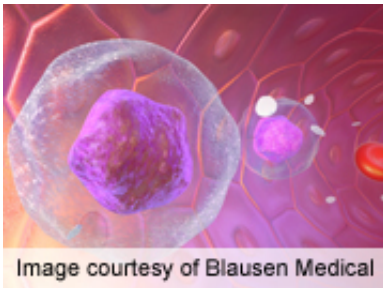


Particular donor genotype lowers leukemia relapse rate

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Patients with acute myeloid leukemia who receive a stem cell transplant from a donor with activating killer-cell immunoglobulin-like receptor genotype *KIR2DS1*, which has ligand specificity for human leukocyte antigen-C2 antigen, have a lower rate of relapse, according to a study published in the Aug. 30 issue of the *New England Journal of Medicine*.

(HealthDay)—Patients with acute myeloid leukemia who receive a stem cell transplant from a donor with activating killer-cell immunoglobulin-like receptor (*KIR*) genotype *KIR2DS1*, which has ligand specificity for human leukocyte antigen (HLA)-C2 antigen, have a lower rate of relapse, according to a study published in the Aug. 30 issue of the *New England Journal of Medicine*.

Jeffrey M. Venstrom, M.D., from the Memorial Sloan-Kettering Cancer Center in New York City, and colleagues reviewed data from 1,277 patients with [acute myeloid leukemia](#) who had received an allogeneic hematopoietic [stem-cell transplant](#) from an unrelated donor. They

performed genotyping of *KIR* and assessed the clinical impact of donor *KIR* genotype.

The researchers found that the relapse rate was significantly lower for patients whose donors were positive for the *KIR2DS1* genotype (hazard ratio, 0.76). This effect appeared to be mediated through HLA-C, with significant protection observed from donors homozygous or heterozygous for HLA-C1 antigens (rate of relapse, 24.9) but not those homozygous for HLA-C2 antigens (rate of relapse, 37.3 percent; hazard ratio [HR], 0.46). In those with a mismatch at a single HLA-C locus, the relapse rate was significantly lower if the donor was positive for *KIR2DS1* (HR, 0.40). The *KIR3DS1* genotype in positive genetic [linkage disequilibrium](#) with *KIR2DS1* was associated with significantly lower mortality (HR, 0.83).

"Activating *KIR* genes from donors were associated with distinct outcomes of allogeneic hematopoietic stem-cell transplantation for acute myeloid leukemia," Venstrom and colleagues conclude.

The study was partially funded by the pharmaceutical and biotechnology industries.

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