

Chronic health conditions common for stem cell transplant survivors

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Although hematopoietic cell transplantation (HCT) cures many blood diseases, two-thirds of long-term survivors report at least one chronic health condition after the procedure, according to a recent study published [online](#) in *Blood*, the journal of the American Society of Hematology. Overall, these patients were three and a half times more likely to develop a severe or life-threatening health condition, such as cardiovascular, endocrine, or musculoskeletal problems, as well as new cancers, when compared with their cancer-free siblings.

"Although hematopoietic cell transplants have helped thousands of patients survive cancer, the burden of chronic illnesses borne by these survivors is substantial," said senior study author Smita Bhatia, MD, MPH, professor and Ruth Ziegler Chair in Population Sciences at City of Hope Comprehensive Cancer Center in Duarte, CA. "We hope the results of this study build awareness of the problem to help ensure a continued high quality of life among transplant survivors through life-long follow-up and proactive care."

It is estimated that more than 45,000 patients undergo HCTs each year to combat life-threatening diseases such as leukemia, lymphoma, and aplastic anemia. The procedure restores blood-forming cells in the patient's bone marrow that have been destroyed by anti-cancer treatments, such as chemotherapy. Although previous studies have shown that more than 70 percent of those who survive the first two years after HCT are expected to become long-term survivors, the elimination of the cancer has not always led to a full restoration of health. The high-

intensity chemo- and radiotherapies needed prior to transplantation can damage many organs and have a negative impact on the overall health of HCT survivors.

The researchers for this study examined the prevalence and severity of chronic health conditions reported by 1,022 HCT survivors who received their transplants at City of Hope or the University of Minnesota between 1974 and 1998 for a [blood cancer](#) or severe aplastic anemia. The results were compared to those of 309 siblings of the participants. Each of the HCT survivors and siblings completed a questionnaire, which included questions regarding physical health conditions, access to and use of medical care, and sociodemographic characteristics.

The results showed that chronic health conditions were widespread in the HCT survivors. Sixty-six percent of these patients reported at least one chronic condition, half reported at least two chronic health conditions, and more than a third (35 percent) reported three or more conditions. In comparison, 39 percent of the siblings reported at least one chronic health condition, but only 15 percent had two or more conditions, and 6 percent had three or more. A severity score of grade 1 (mild) through 4 (life-threatening) was also assigned to each health condition. Mild and moderate conditions include ocular issues, hearing impairment, hypertension, and sensory problems while severe conditions include cardiovascular, gastrointestinal, and musculoskeletal problems, as well as new malignancies. In the HCT cohort, 18 percent reported conditions of the severest level (grade 3 or 4), while only 8 percent of the sibling group had grade 3 or 4 conditions.

Additionally, 53 percent of the HCT survivors who had received grafts from a donor experienced chronic graft-versus-host disease (GVHD), a complication in which the foreign transplanted cells attack the cells in the recipient's body. Although GVHD is treatable, this complication contributed significantly to the increased risk of multiple severe or life-

threatening conditions in these patients. Among the survivors with GVHD, nearly one-quarter had severe or life-threatening conditions such as cardiovascular and gastrointestinal disorders, and more than half had two or more health conditions.

The researchers concluded that HCT survivors have a high rate of illness due to chronic health conditions, especially those with chronic GVHD, and recommended that health-care providers conduct systematic and targeted follow-up of these high-risk patients.

Provided by American Society of Hematology

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