

Study ties bone marrow transplant to negative sexual side effects

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October 24, 2013) – New research ties preparative procedures and complications associated with blood or bone marrow transplantation (stem cell transplantation, SCT) with diminished sexual health in both men and women who have undergone the lifesaving procedure. Study data, published online today in *Blood*, the Journal of the American Society of Hematology (ASH), confirm chronic graft-versus-host disease (GVHD), a serious complication that occurs when donor cells attack the recipient's cells, as a potential source of sexual dysfunction and are the first to demonstrate an association between total body irradiation and sexual dysfunction in men. This study is one of the longest and is the most inclusive to date evaluating sexual well-being in SCT survivors using rigorous, well-validated sexual function assessment tools.

SCT is an increasingly effective form of treatment for patients with blood cancer such as leukemia, lymphoma, and myeloma. The procedure, which involves the transplantation of cells taken either from a patient's own blood or bone marrow (autologous transplantation) or from a matched donor (allogeneic transplantation), effectively "replaces" damaged cells with healthy cells. While SCT was once associated with high mortality, survival rates have steadily increased, prompting research seeking to study and maximize survivors' quality of life.

"Thanks to improved transplant survival rates, we have now been able to focus our efforts on examining how the procedure affects key aspects of recipients' overall quality of life, including [sexual health](#)," said lead study author F. Lennie Wong, PhD, of City of Hope in Duarte, California.

"Previous findings point to the unfortunate fact that, while recipients may physically recover, their sexual health might not rebound as much or as quickly. Data have been limited to this point, prompting us to take a closer look at this issue in a larger, more diverse group of autologous and allogeneic transplant survivors over an extended period."

To further investigate long-term effects of SCT on the sexual health of survivors, a team of researchers led by senior author Smita Bhatia, MD, MPH, surveyed 277 adult patients (152 [men](#) and 125 women; median age 48) who underwent SCT at City of Hope for blood cancer between February 2001 and January 2005 about their [sexual activity](#). Participants completed two questionnaires that together evaluated specific areas of sexual function (sexual cognition/fantasy, sexual arousal, sexual behavior/experience, orgasm, and drive/relationship) as well as [sexual satisfaction](#) at a median time of 17 days pre-transplant and at six, 12, 24, and 36 months post-transplant. A third questionnaire assessed overall health-related quality of life.

Investigators' analysis of questionnaire results (led by Dr. Wong) confirmed previous studies in demonstrating a definitive impact of SCT on survivors' post-transplant sexual activity. During the three-year post-transplant analysis period, the percentage of men who self-reported being "sexually active" (defined as having sex with a partner at least once in the preceding month) declined 7 percentage points, with 61 percent of men reporting sexual activity pre-transplant and 54 percent reporting activity post-transplant. The opposite – a 15 percentage point increase in sexually active individuals – was observed in women, with 37 percent reporting sexual activity pre-transplant and 52 percent reporting activity post-transplant.

In addition to further crystallizing transplantation's impact on survivors' sexual health, study data specifically associated diminished sexual function and satisfaction with transplant-related total body radiation in

men and chronic GVHD with diminished sexual function in men and both sexual function and satisfaction in women.

Investigators observed a nearly 18 percent decline in sexual function in men surveyed who had received total body radiation. The same group also reported an approximate 32 percent decrease in sexual satisfaction, a 26 percent decrease in sexual behavior/experience, a 26 percent decrease in quality of orgasm, and 17 percent decrease in sex drive/relationship since their transplant. Despite these effects in men, radiation had no such reported effect in women, an effect that investigators hypothesize may be explained by inherent physiologic differences in the pathogenesis of sexual dysfunction among men and women.

In addition to documenting concrete effects of radiation on [sexual function](#) and satisfaction, investigators also observed negative sexual effects among those surveyed who had experienced chronic GVHD. Men surveyed who had developed the dangerous post-transplant complication reported a 21 percent decrease in sexual cognition/fantasy and a 24 percent decrease in the quality of orgasm since their transplant. Similarly, investigators observed a 27 percent decline in post-transplant sexual satisfaction among women surveyed who had experienced chronic GVHD, with survey respondents also indicating a 27 percent decline in sexual arousal.

When compared to men, the [women](#) surveyed suffered significantly worse effects overall, despite the fact that their sexual activity increased over the three-year survey period. Investigators concluded that this increase in activity may be explained by a corresponding improvement in female psychological quality of life post transplant.

From this research, investigators conclude that nearly half of SCT survivors are sexually inactive at three years post transplant and suggest

that patients may benefit from speaking with their doctors about sex.

"It is not often that the [transplant](#) team and patient will have a conversation about how this procedure could impact their sex life, even after recovery; however, we hope these findings will help encourage patients and their doctors to openly discuss concerns related to [sexual dysfunction](#) and address them with specialists who can help," said Dr. Wong.

Provided by American Society of Hematology

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