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Canadian Study Takes In-Depth Look At Second Stem Cell Transplants As Salvage Therapy

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Results from a recent study at Princess Margaret Hospital in Toronto show that second stem cell transplantation as salvage therapy for multiple myeloma can be a safe and effective treatment option, especially for patients who relapsed more than 24 months after their first transplant.

Patients with a longer remission period after the first transplant demonstrated longer progression-free (PFS) and overall survival (OS) times after the second transplant than those who relapsed within 24 months. Additionally, achievement of at least a very good partial response (VGPR) after the salvage transplant was associated with better survival outcomes.

Autologous stem cell transplantation is currently the standard of care for myeloma patients up to 65 years of age. In this process, the patient's own stem cells are collected before high-dose chemotherapy, which destroys both healthy and cancerous cells. The stem cells are then re-infused into the patient following the high-dose chemotherapy to replace the destroyed cells.

Most patients, however, eventually relapse and need further treatment, often called salvage therapy. Besides treatment with novel agents, such as [Revlimid](#) (lenalidomide) and [Velcade](#) (bortezomib), a second transplant may be considered as salvage therapy. According to the researchers, however, there is currently only limited data available on the efficacy of a second stem cell transplant as salvage therapy.

To gain a better understanding of the role of stem cell transplantation as an option for salvage therapy, the researchers* retrospectively analyzed data from 81 multiple myeloma patients who had received a second stem cell transplant at Princess Margaret Hospital between March 1992 and December 2009. The median patient age at the time of the first transplant was 55 years.

The median time to relapse after the first transplant was 39 months. In preparation for the second transplant, most patients (96 percent) received another round of steroid-based induction therapy; 86 percent of patients responded to treatment, with 12 percent achieving a very good partial response and 74 percent achieving a partial response. The majority of patients received high-dose [melphalan](#) as part of the salvage transplant.

The response measures were taken 100 days after the salvage transplant. Results showed that 8 percent of patients achieved a complete response, 40 percent achieved a very good partial response and 50 percent achieved a partial response after the salvage transplant. The median time to relapse after the second transplantation was 19 months.

For patients who relapsed within 24 months of the first transplantation, the median progression-free survival time was 9.8 months and the median overall survival time was 28.5 months. The survival times for patients who relapsed more than 24 months after the first transplantation were significantly longer, at 17.3 months and 71.3 months, respectively.

The researchers also found that the achievement of at least a very good partial response after the salvage transplant was associated with extended survival.

Patients who achieved at least a very good partial response showed a median progression-free survival time of 23 months and the median overall survival has not yet been reached. For patients who did not achieve a very good partial response, the median survival times were 13.9 months and 38.9 months, respectively.

After salvage transplantation, 30 of the 81 patients included in the study received maintenance therapy. However, the progression-free and overall survival times were similar for patients with and without maintenance therapy.

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