



## QUALITY OF LIFE IN SYSTEMIC SCLEROSIS PATIENTS TREATED WITH AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION

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### BACKGROUND

We aimed to investigate how autologous hematopoietic stem cell transplantation (AHSCT) influences quality of life of severe and rapidly progressive systemic sclerosis (SSc) patients treated with AHSCT.

### MATERIALS AND METHODS

In this longitudinal study, SSc patients were prospectively evaluated before, and at 6 and 12 months after AHSCT. The Generic Questionnaire for Evaluation of Quality of Life Medical Outcomes Study 36 Item Short-Form Health Survey (SF-36) and scleroderma Health Assessment Questionnaire (sHAQ) were applied individually, under signed consent forms. The SF-36 questionnaire evaluates eight domains: physical functioning (PF), role-physical (RP), bodily pain (BP), general health (GH), social functioning (SF), vitality (VT), role-emotional (RE), and mental health (MH). Results were transformed into a 0-100 scale, where zero corresponds to a worse health condition and 100 to the best possible score. The sHAQ assesses dysfunctions caused by SSc symptoms. The scores on this scale were converted to subscores ranging from 0 to 3 points. Higher scores imply worse functional capacity. Significance was set at  $p < 0.05$ .

### RESULTS

Eighty-five percent of participants were female, with mean (standard deviation, SD) age of 36 ( $\pm 9.7$ ) years and mean time from diagnosis of 45.5 ( $\pm 37.7$ ) months. Seventeen patients were evaluated before and at the 6-month time point after AHSCT and 12 before and at 12 months after AHSCT. At 6 and 12 months post-AHSCT, paired analyses showed significant improvement of the SF-36 scores in the following domains: BP (6 months,  $p < 0.01$  and 12 months,  $p < 0.01$ ); PF (6 months,  $p < 0.01$ ); GH (6 months,  $p < 0.01$ ); VT (6 months,  $p < 0.01$ ) and RP (12 months,  $p < 0.01$ ). The summary physical component score (PCS) improved from pre-AHSCT to 6 months ( $p = 0.0003$ ) and to 12 months (0.0132) after AHSCT. The summary mental component score (MCS) increased from pre- to 6 months ( $p = 0.046$ ) after AHSCT. For sHAQ, the overall score was not different before and at 6 months ( $p = 0.18$ ) and 12 months ( $p = 0.90$ ) after AHSCT. The sHAQ subscore of "general evaluation" improved at 6 months ( $p < 0.01$ ) after AHSCT.

### CONCLUSION

AHSCT positively impacts quality of life of SSc patients. Improvements of the physical components of quality of life are more pronounced and early after AHSCT than those of the mental components. Mental health may improve later and at a slower pace, possibly as consequence of physical achievements. These data reinforce the importance of psychotherapeutic follow-up before and after AHSCT, as support for mental health adjustments.