

## Do patients after allogeneic hematopoietic stem cell transplant for hematological diseases experience a normal quality of life?

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### Purpose

To analyse retrospectively the quality of life (QOL) of patients after allogeneic hematopoietic stem cell transplant (HSCT).

To assess the rehabilitation in professional and social issues after HSCT.

### Patients and Methods

124 patients without evidence of disease progression accepted to answer the questionnaire and were included in the study.

The patients were transplanted between 1984 and 2004.

QOL was assessed with

- an EORTC validated and developed tool: EORTC QLQ-C30.
- the Functional Assessment of Chronic Illness Therapy Questionnaire: FACT-Bone Marrow Transplantation.

93% of pts answered the questionnaires.

Median age at QOL evaluation: 42 yrs (9 - 67 yrs).

Median interval between HSCT and QOL evaluation: 7 years (1 - 21 yrs).

#### Pre-treatment characteristics of patients

Median age	34 yrs (4-65)
Male/female	79/45
Karnofy performance status	
> 80	104
< 80	20
Diagnosis	
Aplastic Anemia	6
Acute Myeloid Leukemia	40
Acute Lymphatic leukemia	20
Chronic Myeloid Leukemia	31
Chronic Lymphatic leukemia	1
Myelodysplastic and myeloproliferative Syndrome	11
Lymphoma	14
Multiple Myeloma	1

#### Pre-treatment characteristics of patients (1)

	No. of pts
Stem cell source	
Bone marrow (BM)	62
Peripheral blood stem cells (PBSC)	62
T depletion status	
T-depleted	54
Non T-depleted	22
Partially T-depleted	48
Conditioning regimen	
TBI based	97
Busulfan based	27

#### Pre-treatment characteristics of patients (2)

	No. of pts
Donor-recipient pairs	
HLA-identical	95
HLA-matched/unrelated	15
HLA-mismatched/related	5
HLA-mismatched/unrelated	8
Syngeneic	1
GVHD prophylaxis	
Cyclosporine	44
Cyclosporine A + Metotrexate	32
No other than Tdepletion	48

### Statistical analysis

Descriptive statistics were performed on all study variables.

The Wilcoxon Signed Rank and the Mann-Whitney U tests were used.

Multivariate analysis was done with the Cox logistic regression model.

## Results

#### Long term complications (> 3 months) after HSCT

	No. of pts
Chronic GVHD	34 (27%)
Cataracts	24 (19%)
Neurological complications	11 ( 9%)
Bone and joint impairments	5 (4%)
Depressions	15 (12%)
Second malignancies	10 (8%)
Relapses	15 (12%)

#### Social issues

	Prior to HSCT	After HSCT
Working full time	80	36
Working part time	18	26
School/training	21	12
Retired	1	2
Disability insurance	4	48 (13 partial)

After HSCT 60% of the patients took up their professional activities again:

- 30% full time employment.
- 22% part time employment.
- 8% training or school.

After HSCT 40% of the patients never went back to work.

#### Significant changes of QLQ-C30 compared to an age adjusted healthy Norwegian population

EORTC QLQ-C30	Scores after HSCT	scores healthy population	P
Physical function	83.9 (32.6)	89.9	0.01
Role function	74.6 (32.6)	92.8	0.004
Emotional function	72.2 (28.8)	82.8	< 0.0001
Cognitive function	74.7 (28.5)	86.5	< 0.0001
Social function	73.4 (31.9)	85.8	< 0.0001
Global quality of life	71.2 (21.6)	73.7	< 0.03
Dyspnea	27.4 (33.7)	14.3	< 0.0001
Sleep disturbance	32 (35.2)	20.4	< 0.0001
Financial impact	24.2 (33.8)	9	< 0.0001

#### Significant changes of FACT-BMT compared to an age adjusted healthy European population

FACT-BMT	P	Scores after HSCT	Scores health population*
Functional scales <sup>a</sup>		Mean	Mean
Physical well being (PWB) (0-28)		22.7	25.5*
Social/family well being (SWB) (0-28)		19.6	21.3*
Emotional well being (EWB) (0-24)		19	20.2*
Functional well being (FWB)(0-28)		18.7	22.2*
FACT-G Total score (0-108)		80.1 (16.9)	89.3*
Fatigue subscale (FS) (0-52)		36.5 (12.3)	40.1 (10.4)

<sup>a</sup> a higher scores indicate better quality of life

\*Holzner B, Kimmeler G, Cella D, et al. Normative data for functional assessment of cancer therapy. Acta Oncologica 2004; 43:153-160.

The global quality of life was significantly worse when compared to that of the general population data from EORTC and FACT- BMT.

Employment status post HSCT had a significant impact on all the QLQ-C30 and FACT- BMT functions with a worse perception for their QOL in patients without occupation.

All other variables including the late complications did not have a significant impact in multivariate analysis.

## Conclusions

EORTC QLQ-C30 and FACT- BMT questionnaires show that the perception of QOL in patients after HSCT is lower than the general population.

Given prior disease and treatment the differences are not very large.

Getting patients back to work may become a priority, as patients at work tend to have a better QOL.

Issues to increase work-related capabilities and improve social support need to be addressed to the medical community.