

Table S1. Effect of obesity on outcomes after allogeneic hematopoietic cell transplantation: summary of literature review.

Study	Year	N	Adult or pediatric	Match, relation	Conditioning Intensity	Source	Obesity definition	Outcomes in overweight or obese compared to normal weight (incidence, endpoint)				
								OS	NRM	Relapse	aGVHD	cGVHD
Fleming <i>et al.</i>	1997	322	Both	Matched, mismatched, RD, URD	Full	BM, PB	>120% IBW	↓ 24% 120d	NR	= 17% 120d	NR	NR
Hansen <i>et al.</i>	1998	196	Both	Matched URD	Full	BM	BMI	↓↑	NR	NR	NR	NR
Le Blanc <i>et al.</i>	2003	544	Adult	Matched, mismatched, RD, URD	Full	BM, PB	BMI	= 55% 5y	= 33% 5y	= 28% 5y	= 24% 100d	= 61% 5y
Bulley <i>et al.</i>	2007	325	Pediatric	Matched, mismatched, RD, URD	Full	BM, PB, CB	BMI	↓ 47% 5y	↑ 39% 5y	↑ 20% 5y	NR	NR
Fuji <i>et al.</i>	2009	3827	Adult	Matched, mismatched, RD, URD	Full, reduced	BM	BMI	= 53% 1y	= 40% 1y	= 21% 1y	↑ 58% 100d	NR
Navarro <i>et al.</i>	2010	2008	Adult	Matched RD	Full, reduced	BM, PB	BMI	= 37% 5y	= 30% 3y	= 31% 3y	↑ 36% 100d	= 32% 1y
Navarro <i>et al.</i>	2010	1779	Adult	Matched URD	Full, reduced	BM, PB	BMI	= 27% 5y	= 46% 3y	↓ 25% 3y	= 50% 100d	= 34% 1y
Nikolousis <i>et al.</i>	2010	331	Adult	RD, URD	Full, reduced	BM, PB	BMI	= 85% 100d	NR	NR	= 16% 100d	= 17% 1y
Barker <i>et al.</i>	2011	1281	Pediatric	Matched, mismatched, RD, URD	Full, reduced	BM	BMI	↓ 71% 100d	↑ 29% 100d	NR	↑ 24% d100	NR
Pine <i>et al.</i>	2011	200	Pediatric	Matched/mismatched, URD	Full, reduced	CB	BMI	=‡	=	NR	=	=
Hadjibabaie <i>et al.</i>	2012	192	Adult	Matched RD	Full	PB	BMI	= 63% 1y	= 26% 1y	= 18% 1y	= 36% 100d	= 26% 1y
Sucak <i>et al.</i>	2012	71	Adult	Matched, mismatched, RD, URD	Full	BM, PB	BMI	= 36% 1y	= 65% 1y	= 27% d100	NR	NR
Aplenc <i>et al.</i>	2014	3687	Pediatric	Matched, mismatched, RD, URD	Full	BM	BMI	= 55% 3y	↑ 28% 3y	↓ 21% 3y	NR	NR
Nakao <i>et al.*</i>	2014	19499	Both	Matched, mismatched, RD, URD	Full, reduced	BM, PB, CB	Various	↓	NR	NR	↑	NR

(OS – overall survival; NRM – non-relapse mortality; a/cGVHD – acute/chronic graft-versus-host disease; RD/URD – related/unrelated donor; BM – bone marrow; PB – peripheral blood; CB – cord blood; IBW – ideal body weight; BMI – body mass index; ↑ – significant increase; ↓ – significant increase, = – no change; d – day; y – year; NR – not reported)

* Meta-analysis

† In a multivariate analysis where BMI was modeled as a continuous variable, authors report a mortality risk ratio (RR) of 1.6 (95% confidence intervals [CI] 1.2–2.2)

‡ In a multivariate analysis where obesity was used as a categorical variable, authors report the following RR: overall survival – 1.54 (CI 0.85–2.78), non-relapse mortality – 1.54 (CI 0.71–3.34), acute GVHD – 1.08 (0.61–1.9), chronic GVHD – 2.69 (1.00–7.25)

Table S2. Clinical outcomes of children < 18 years age and patients with ALL, AML, and MDS by BMI category.

N = 898	Underweight	Normal weight	Overweight	Obese
Grade 2-4 Acute GVHD (Day 100)				
Total study population	40%	33%	37%	41%
Children < 18 years of age	25%	25%	27%	35%
ALL/AML/MDS	38%	36%	34%	36%
Non-Relapse Mortality (3 year)				
Total study population	20%	19%	20%	33%
Children < 18 years of age	25%	8%	13%	20%
ALL/AML/MDS	13%	17%	18%	25%
Relapse (3 year)				
Total study population	30%	41%	37%	30%
Children < 18 years of age	38%	28%	20%	29%
ALL/AML/MDS	38%	49%	37%	33%
Overall Survival (3 year)				
Total study population	59%	48%	47%	43%
Children < 18 years of age	60%	66%	80%	50%
ALL/AML/MDS	75%	40%	48%	45%

Clinical Outcomes: Cumulative incidences (%) of grade 2-4 acute GVHD (day 100) and non-relapse mortality and relapse (3 year), and overall survival (3 year).

ALL – acute lymphoblastic leukemia; AML – acute myelogenous leukemia; MDS – myelodysplastic syndrome; BMI – body mass index; GVHD – graft-versus-host disease.

Total study population: n=898 underweight n=20, normal weight n=290, overweight n=287, obese n=301
 Children < 18 years age: n=101 underweight n=8, normal weight n=61, overweight n=15, obese n=17
 ALL/AML/MDS: n=514 underweight n=8, normal weight n=146, overweight n=172, obese n=188