

Hematopoietic stem cell transplantation is effective in achieving long-term survival for post-aplastic anemia myeloid neoplasms: the EBMT Severe Aplastic Anemia Report

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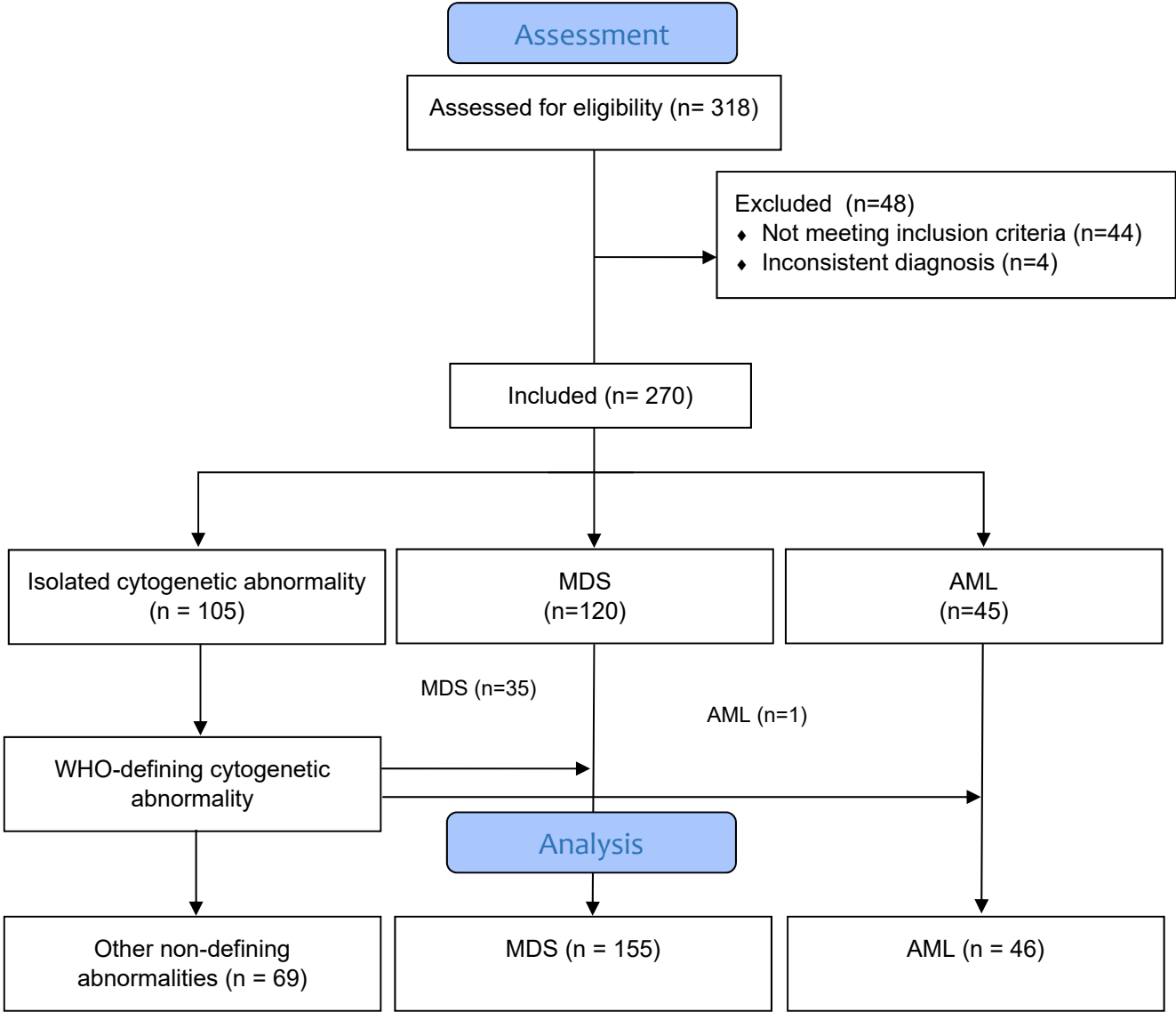
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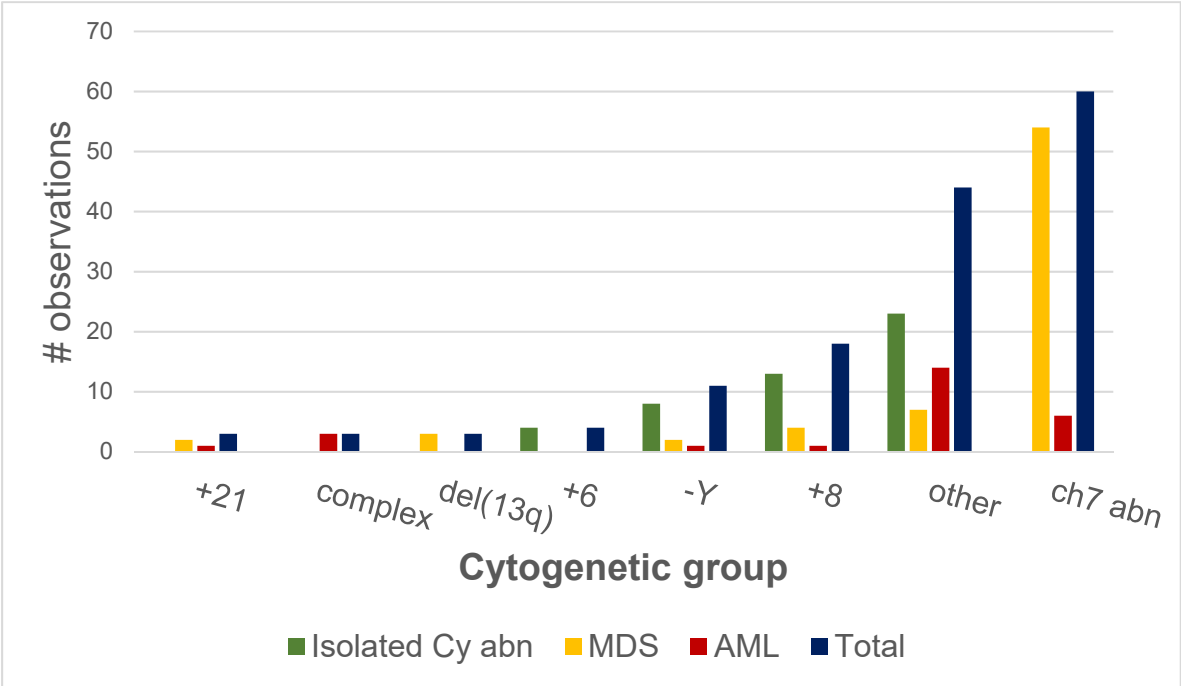
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Supplementary material

Supplementary Figure 1: Patients' study inclusion flow diagram

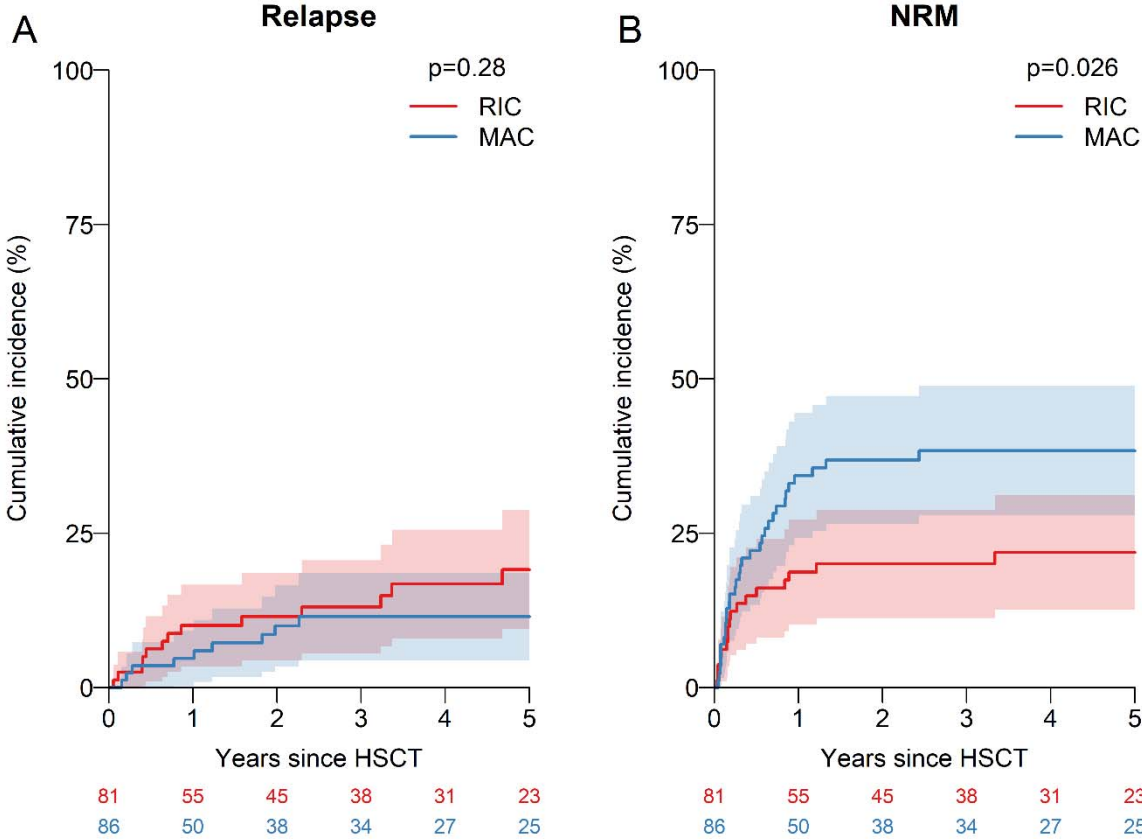


Supplementary Figure 2



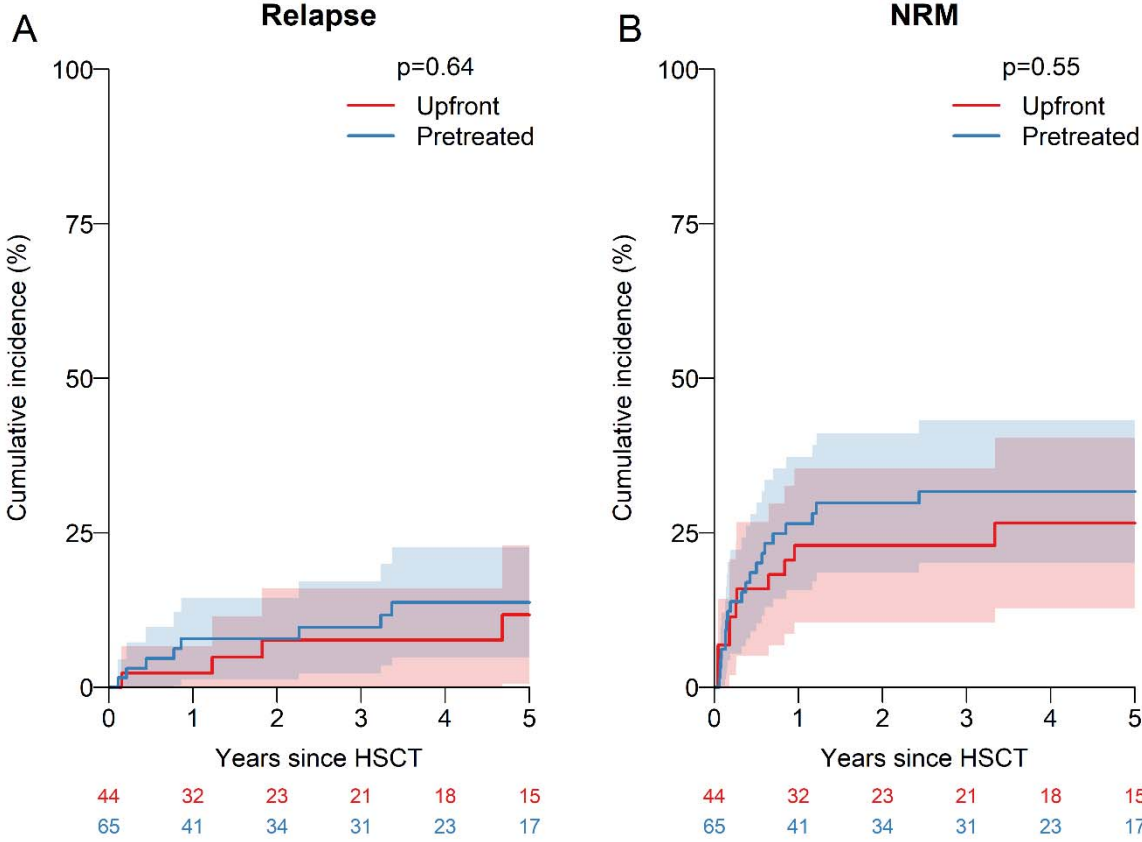
Most frequent cytogenetic abnormalities found in this study. In green, non-defining isolated cytogenetic abnormalities without morphological criteria for MDS diagnosis, in yellow MDS diagnosis, and in red, AML diagnosis.

Supplementary Figure 3a and b: Cumulative incidences of relapse and nonrelapse mortality by conditioning regiment intensity



Supplementary Figure 3: Cumulative incidence curves of (A) MDS/AML relapse and (B) non-relapse mortality, stratified by conditioning intensity. The shaded regions indicate 95% confidence intervals. Numbers below the graphs show the number of patients at risk. Indicated p-values are calculated by Gray's test.

Supplementary Figure 4a and b: Cumulative incidences of relapse and nonrelapse mortality by MDS pretreatment status



Supplementary Figure 4: Cumulative incidence curves of (A) MDS relapse and (B) non-relapse mortality, stratified by pretreatment, in MDS patients. The shaded regions indicate 95% confidence intervals. Numbers below the graphs show the number of patients at risk. Indicated p-values are calculated by Gray's test.

Supplementary Table 1

Risk factor	Group	Neutrophil engraftment			Platelet recovery		
		N	D+28 (95% CI)	p	N	D+60 (95% CI)	p
Total	All patients	264	85% (81-89%)		227	84% (79-89%)	
Clonal evolution	MDS	153	89% (84-94%)	0.01	135	84% (77-90%)	>0.99
	AML	45	84% (74-95%)		34	82% (70-95%)	
	Isolated abnormality	66	76% (65-86%)		58	86% (77-95%)	
Conditioning	RIC	131	85% (79-91%)	0.2	117	87% (81-93%)	0.07
	MAC	131	85% (79-91%)		110	81% (74-88%)	

Supplementary Table 1: Cumulative incidences of neutrophil engraftment by day 28 and platelet recovery by day 60, overall and stratified by clonal evolution and conditioning. P-values are based Gray's tests.

Supplementary Table 2

		OS			GGRFS			aGvHD II-IV			cGvHD			Relapse			NRM		
		N	5 year	p	N	5 year	p	N	day 100	p	N	5 year	p	N	5 year	p	N	5 year	p
Overall	All patients	270	64% (58-70%)		239	52% (45-59%)		257	24% (19-29%)		246	31% (25-38%)		169	15% (9-21%)		169	30% (23-37%)	
Clonal evolution	MDS	155	60% (52-68%)	0.19	135	51% (43-60%)	0.09	147	26% (19-33%)	0.013	137	32% (24-41%)	0.019	125	12% (6-19%)	0.09	125	34% (25-42%)	0.06
	AML	46	61% (45-76%)		41	38% (23-53%)		46	35% (21-49%)		43	42% (26-57%)		44	22% (9-35%)		44	19% (7-31%)	
Cytogenetics	isolated abnormality	69	74% (63-85%)		63	61% (48-74%)		64	12% (4-21%)		66	22% (10-34%)		44	9% (0-18%)	0.035	44	28% (14-41%)	0.006
	Normal	51	67% (54-81%)	0.2	48	49% (34-64%)	0.6	49	24% (12-37%)	0.3	47	34% (19-48%)	0.18	44	9% (0-18%)		44	28% (14-41%)	
	Abnormality 7	61	58% (45-72%)		54	50% (36-64%)		58	33% (21-45%)		56	34% (20-48%)		43	13% (2-24%)		43	42% (27-57%)	
Pretreatment (MDS)	Other	81	71% (60-81%)		77	58% (46-70%)		77	22% (13-31%)		80	23% (13-34%)		16	38% (9-86%)		16	0% (0-0%)	
	Upfront	48	70% (55-84%)	0.2	44	57% (41-72%)	0.3	47	28% (15-40%)	0.6	46	39% (23-54%)	0.3	44	12% (1-23%)	0.6	44	27% (13-40%)	0.5
Conditioning	Pretreated	78	56% (44-68%)		71	45% (33-57%)		75	24% (14-34%)		71	33% (20-45%)		65	14% (5-23%)		65	32% (20-43%)	
	RIC	132	65% (56-74%)	0.6	119	50% (40-59%)	0.5	129	20% (13-27%)	0.14	123	37% (27-46%)	0.2	81	19% (9-29%)	0.3	81	22% (13-31%)	0.026
	MAC	133	61% (53-70%)		119	54% (44-63%)		126	28% (20-36%)		121	27% (18-35%)		86	11% (4-19%)		86	38% (28-49%)	

Supplementary Table 2: Univariate analysis for clinical outcomes according to pre-established clinical variables.

Supplementary appendix

Centers who have reported patients to the EBMT that were included in this study: A.E.C. Broers, Erasmus MC Cancer Institute, Rotterdam, Netherlands; Claude Eric Bulabois, CHU Grenoble Alpes, Grenoble, France; Virginie Gandemer, Centre Hospitalier Universitaire de Rennes, Rennes, France; Romain Gounot, Hopital Henri Mondor, Creteil, France; Anna Paola Iori, Univ. La Sapienza, Rome, Italy; Francesca Kinsella, Birmingham Centre for Cellular Therapy and Transplant, Birmingham, United Kingdom; Alexander Kulagin, RM Gorbacheva Research Institute, Pavlov University, St. Petersburg, Russian Federation; Mi Kwon, Hospital Gregorio Maranon, Madrid, Spain; Bruno Lioure, Institut de cancerologie Strasbourg Europe, Strasbourg, France; Anna Proia, Ospedale S. Camillo-Forlanini, Rome, Italy; Peter Remenyi, Del-pesti Centrumkorhaz, Budapest, Hungary; Mieke Roeven, Nijmegen Medical Centre, Nijmegen, Netherlands; Jacques-Olivier Bay, CHU Estaing, Clermont-Ferrand, France; Martin Bornhauser, Universitaetsklinikum Dresden, Dresden, Germany; Amandine Charbonnier, CHU Amiens, Amiens, France; Katherine Clesham, University College London Hospital, London, United Kingdom; Thomas Cluzeau, CHU Nice, Nice, France; Nathalie Contentin, Centre Henri Becquerel, Rouen, France; Gandhi Damaj, CHU Caen, Caen, France; Eric Deconinck, Hopital Jean Minjoz, Besancon, France; Matthias Eder, Hannover Medical School, Hannover, Germany; Edouard Forcade, CHU Bordeaux, Pessac, France; Olivier Hermine, Hopital Necker, Paris, France; Charlotte Jubert, CHU Bordeaux, Bordeaux, France; Christian Junghanss, Universitaet Rostock, Rostock, Germany; Matthias Klammer, St. George's Hospital London, London, United Kingdom; Lucia Lopez Corral, Hospital Clinico, Salamanca, Spain; Mohamad Mohty, Hopital Saint Antoine, Paris, France; Alberto Mussetti, Institut Catala d'Oncologia, Hospital Duran i Reynals, Barcelona, Spain; Yana Novis, Hospital Sirio-Libanés, Sao Paulo, Brazil; Zubeyde Nur Ozkurt, Gazi University Faculty of Medicine, Ankara, Turkey; Elisa Sala, Klinik fuer Innere Medizin III, Ulm, Germany; Anne Sirvent, CHU Lapeyronie, Montpellier, France; John Snowden, Sheffield Royal Hallamshire, Sheffield, United Kingdom; Ibrahim Yakoub-Agha, CHU de Lille, Lille, France; Emanuele Angelucci, IRCCS Ospedale Policlinico San Martino, Genova, Italy; Adriana Balduzzi, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy; Frederic Baron, University of Liege, Liege, Belgium; Arancha Bermudez Rodriguez, Hospital U. Marques de Valdecilla, Santander, Spain; Caroline Besley, University Hospitals Bristol and Weston, Bristol, United Kingdom; Francesca Bonifazi, S.Orsola-Malpighi Hospital, Bologna, Italy; Carlo Borghero, S. Bortolo Hospital, Vicenza, Italy; Alessandro Busca, S.S.C.V.D Trapianto di Cellule Staminali, Torino, Italy; Alessandra Carotti, Sezione di Ematologia, Perugia, Italy; Raffaella Cerretti, Tor Vergata University of Rome, Rome, Italy; Goda Choi, University Medical Center Groningen (UMCG), Groningen, Netherlands; Jennifer Clay, St James University Hospital Leeds, Leeds, United Kingdom; Jean-Hugues Dalle, Hopital Robert Debre, Paris, France; Rafael Duarte, Clinica Puerta de Hierro, Madrid, Spain; Jaroslaw Dybko, Department of Hematology and Transplantology of Lower Silesian Center of Oncology, Wroclaw, Poland; Damian Finnegan, Belfast City Hospital, Belfast, United Kingdom; Tunc Fisgin, Altinbas University, Faculty of Medicine, Bahcelievler Medicalpark Hospital, Pediatric BMT Unit, Istanbul, Turkey; Alain Gadisseur, Antwerp University Hospital, Antwerp, Belgium;

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