Comparison of horse and rabbit antithymocyte globulin in immunosuppressive therapy for refractory cytopenia of childhood

Ayami Yoshimi,[1] Marry M. van den Heuvel-Eibrink,[2] Irith Baumann,[3] Stephan Schwarz,[4] Ingrid Simonitsch-Klupp,[5] Pascale de Paepe,[6] Vit Campr,[7] Gitte Birk Kerndrup,[8] Maureen O'Sullivan,[9] Rita Devito,[10] Roos Leguit,[11] Miguel Hernandez,[12] Michael Dworzak,[13] Barbara de Moerloose,[14] Jan Starý,[15] Henrik Hasle,[16] Owen P. Smith,[17] Marco Zecca,[18] Albert Catala,[19] Markus Schmugge,[20] Franco Locatelli,[21] Monika Führer,[22] Alexandra Fischer,[1] Anne Guderle,[1] Peter Nöllke,[1] Brigitte Strahm,[1] and Charlotte M. Niemeyer[1]

[1]Department of Pediatrics and Adolescent Medicine, Division of Pediatric Hematology and Oncology, University of Freiburg, Germany; [2]Sophia Children's Hospital, Erasmus Medical Center, Rotterdam, and Dutch Childhood Oncology Group, the Hague, the Netherlands; [3]Department of Pathology, Boeblingen Hospital, Clinical Centre South West, Boeblingen, Germany; [4]Department of Pathology, University Medical Center Erlangen, Germany; [5]Clinical Institute of Pathology, Medical University of Vienna, Austria; [6]Department of Pathology, University Hospital Ghent, Belgium; [7]Department of Pathology, University Hospital in Motol, Prague, Czech Republic; [8]Department of Pathology, Vejle Hospital, Denmark; [9]Histology Laboratory, Our Lady's Hospital for Sick Children, Dublin, Ireland; [10]Department of Pathology, Bambino Gesu' Children's Hospital, Rome, Italy; [11]Department of Pathology, University Medical Centre Utrecht, and Dutch Childhood Oncology Group, the Hague, the Netherlands; [12]Department of Pathology, Hospital Universitario La Fe, Valencia, Spain; [13]St. Anna Children's Hospital and Children's Cancer Research Institute, Department of Pediatrics, Medical University of Vienna, Austria; [14]Department of Pediatric Hemato-Oncology, Ghent University Hospital, Belgium; [15]Department of Pediatric Hematology and Oncology, Charles University and University Hospital Motol, Prague, Czech Pediatric Hematology Working Group, Czech Republic; [16]Department of Pediatrics, Aarhus University Hospital Skejby, Aarhus, Denmark; [17]Paediatric Oncology and Haematology, Our Lady's Hospital for Sick Children Crumlin, Dublin, Ireland; [18]Pediatric Hematology-Oncology, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy; [19]Department of Hematology, Hospital Sant Joan de Déu, Barcelona, Spain; [20]Department of Hematology and Oncology, University Children's Hospital, Zurich, Switzerland; [21]Department of Pediatric Hematology and Oncology, Bambino Gesu' Children's Hospital, Rome, University of Pavia, Italy; [22]Dr von Haunersches Kinderspital, Children Hospital of the Ludwig-Maximilians-University of Munich, Germany on behalf of the European Working Group of MDS in Childhood (EWOG-MDS)

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Correspondence: ayami.yoshimi@uniklinik-freiburg.de

Online Supplementary Table S1: Clinical characteristics of patients with refractory cytopenia of childhood and hypocellular bone marrow (excluding patients with monosomy 7/7q- or ≥3 chromosomal aberrations) grouped according to primary therapy

	IST (n = 115)	MSD-HSCT (n = 39)	UD/MMFD-HSCT (n = 45*)	*P-value*
Median age at diagnosis (years, range)	9.8 (1.2–18.1)	12.4 (2.6–17.9)	11.4 (3.1–17.9)	0.01
Sex (male/female)	74/41	24/15	24/21	ns
Median ANC ($\times 10^9$/L, range), n = 196	0.4 (0.0–3.8)	0.5 (0.04–1.7)	0.6 (0.02–2.4)	0.09
MCV (normal/elevated for age), n = 193	45/67	11/26	16/28	ns
HbF (normal/elevated for age), n = 75	5/37	1/15	3/14	ns
Median Hb (g/dL, range), n = 196	7.8 (2.4–12.8)	6.0 (2.9–14.9)	7.8 (3.2–12.5)	0.05
Median platelet count ($\times 10^9$/L, range), n = 195	13 (0–188)	12 (1–105)	16 (1–126)	ns
Median interval between diagnosis and therapy (days, range)	60 (1–402)	84 (34–164)	134 (17–177)	0.01

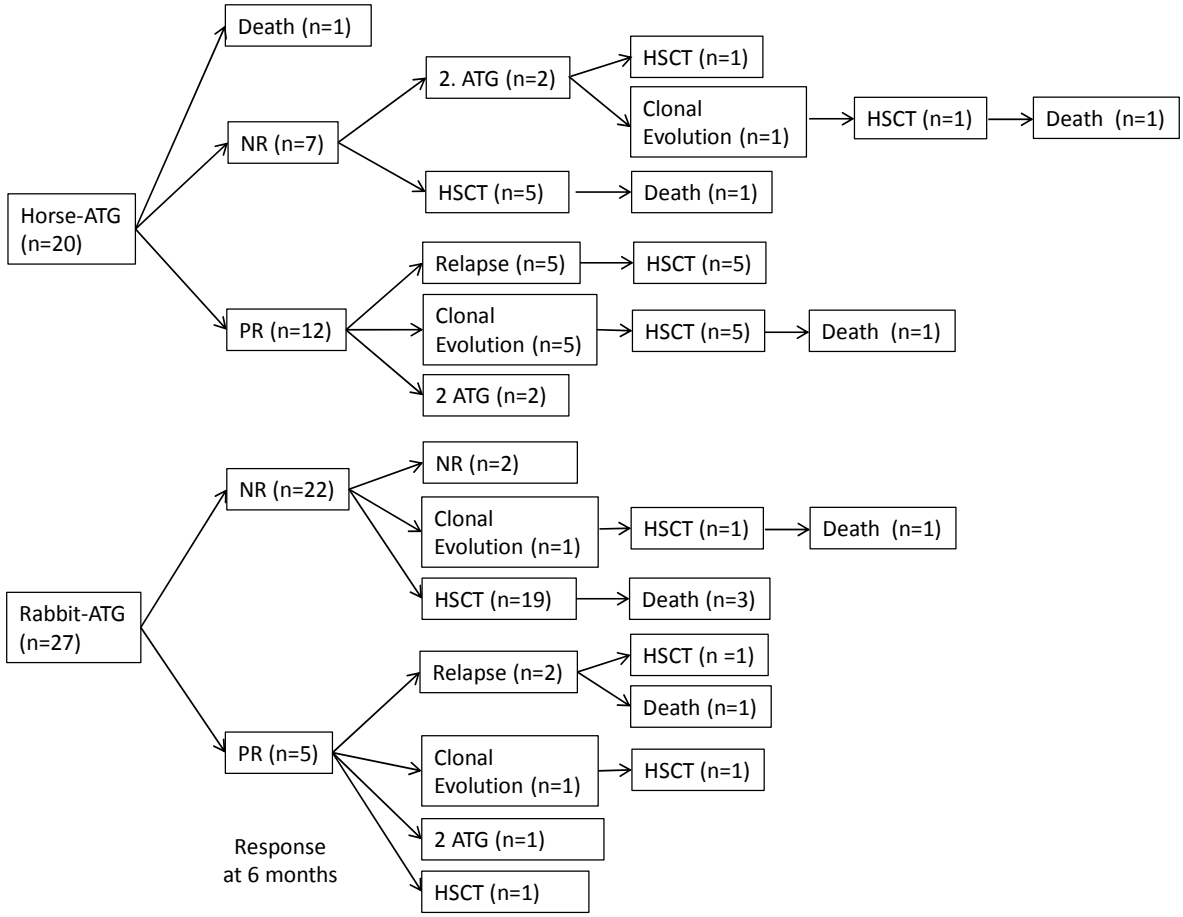
IST: immunosuppressive therapy, MSD: matched sibling donor, HSCT: hematopoietic stem cell transplantation, UD: unrelated donor. ANC: absolute neutrophil count, MCV: mean corpuscular volume, HbF: fetal hemoglobin, Hb: hemoglobin. All blood values given are prior to transfusion. *Forty-four patients were transplanted from an unrelated donor and one patient from a mismatched family donor.

Online Supplementary Table S2: Clonal evolution and disease progression after immunosuppressive therapy

ID	ATG	Interval between IST initiation and clonal evolution (years)	Response at 6 months	Karyotype at clonal evolution	Diagnosis at clonal evolution	Therapy, outcome (years)
D337	horse-ATG	1.0	NR	45,XY, -7	RAEB	HSCT, TRM (0.6)
D394	horse-ATG	4.9	PR	46,XY, del (16)(q12q23)	RCC	HSCT, alive (>2.1)
D433	horse-ATG	3.7	PR	46,XY	Clinical PNH*	HSCT, alive (>3.6)
D442	horse-ATG	0.6	PR	45,XY, -7	RCC	HSCT, alive (>7.5)
D452	horse-ATG	3.5	PR	46,XY	MDR-AML	HSCT, TRM (0.4)
D529	horse-ATG	1.2	PR	46,XY,der(4)t(4;7)(q25;q33),der(7)t(4;7)(q2?5;q21)	RCC	HSCT, alive (>5.7)
D724	rabbit-ATG	1.2	PR	45,XY, -7	RCC	HSCT, alive (>2.9)
CH043	rabbit-ATG	0.9	NR	45XX, -7	RCC	HSCT, TRM (0.7)

horse-ATG: horse antithymocyte globulin (Lymphoglobulin®), rabbit ATG (Thymoglobulin®), IST: immunosuppressive therapy, NR: no response, PR: partial response, RAEB: refractory anemia with excess blasts, RCC: refractory cytopenia of childhood, PNH: paroxysmal nocturnal hemoglobinuria, MDR-AML: myelodysplasia-related acute myeloid leukemia, HSCT: hematopoietic stem cell transplantation, TRM: transplantation-related mortality. At diagnosis, 6 of 8 patients had a normal karyotype and 2 patients had no metaphase cytogenetics; no patients had an abnormal karyotype. *hemolysis

Online Supplementary Figure S1: Details of treatment failures (n=47) after immunosuppressive therapy



horse-ATG: horse antithymocyte globulin (Lymphoglobulin®), rabbit-ATG (Thymoglobulin®), NR: no response, PR: partial response, 2. ATG: second course of ATG, HSCT: hematopoietic stem cell transplantation