Understanding aplastic anemia

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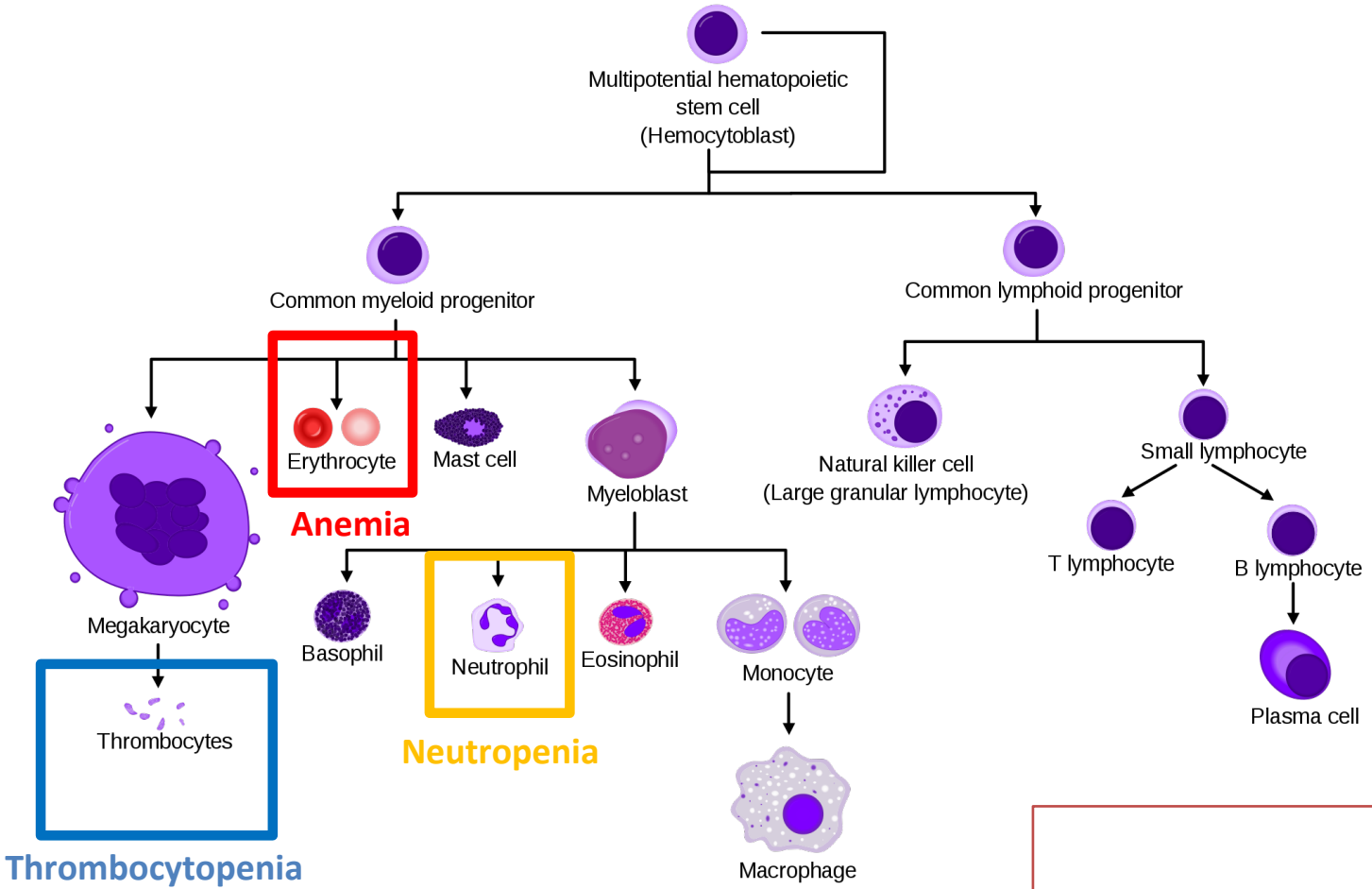
EBMT

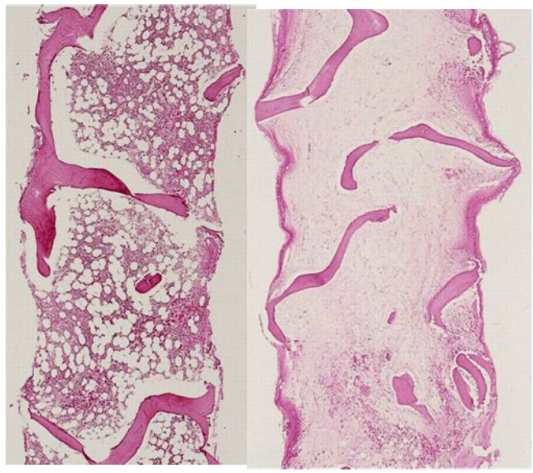
European Reference Network
for rare or low prevalence complex diseases
Network Hematological Diseases (ERN EuroBloodNet)

Conflicts of interest

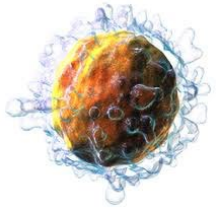
Nothing to declare

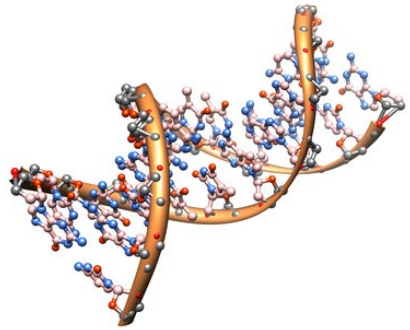
= bone marrow failure with bi-/pancytopenia





Classification





Acquired AA

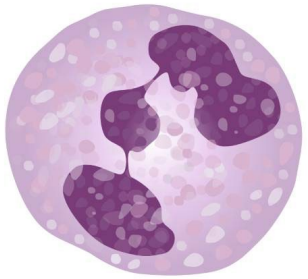
- Auto-reactive (t-cells)
- Toxic (chemo, radiation)
- Inflammation (post-Hepatitis)

Inherited BM-Failure

- Fanconi
- Telomeropathy (Dyskeratosis congenita)
- Ribosomopathies (e.g. DBA)
- Many more …

Clinical presentation

anemia (fatigue, dizziness, etc.)



neutropenia (infection)

thrombocytopenia (bleeding)

More than «pancytopenia» symptoms → Quality of life in acquired aplastic anemia ?

Table 3 Multivariate analysis of favorable factors associated with outcomes.

Outcome	OR/RR/RC	*P*
Achieved normal blood routine at 6 months after treatment		
Haplo-HSCT	5.953	<0.0001
Failure-free survival		
Haplo-HSCT	0.367	<0.0001
Physical functioning		
Haplo-HSCT	32.707	<0.0001
Role-physical functioning		
Haplo-HSCT	40.055	<0.0001
General health		
Haplo-HSCT	36.625	<0.0001
Vitality		
Haplo-HSCT	33.057	<0.0001
Social functioning		
Haplo-HSCT	43.525	<0.0001
Role-emotional functioning		
Haplo-HSCT	21.660	<0.0001
Mental health		
Haplo-HSCT	20.497	<0.0001
Mental component summary		
Haplo-HSCT	29.487	<0.0001

OR odds ratio, *RR* relative risk, *RC* regression coefficient, *haplo-HSCT* haploidentical hematopoietic stem cell transplantation.

Liu L et al. Leukemia (2020) 34:3359–3369

Annals of Hematology (2019) 98:1547–1559
https://doi.org/10.1007/s00277-019-03681-3

ORIGINAL ARTICLE

Design and development of a disease-specific quality of life tool for patients with aplastic anaemia and/or paroxysmal nocturnal haemoglobinuria (QLQ-AA/PNH)—a report on phase III

Cathrin Niedeggen[1] · Susanne Singer[2] · Martha Groth[1] · Andrea Petermann-Meyer[1] · Alexander Röth[3] · Hubert Schrezenmeier[4] · Britta Höchsmann[4] · Tim H. Brümmendorf[1] · Jens Panse[1]

Weisshaar *et al. Orphanet Journal of Rare Diseases* (2020) 15:249
https://doi.org/10.1186/s13023-020-01532-3

Orphanet Journal of Rare Diseases

RESEARCH Open Access

Development of a patient-reported outcome questionnaire for aplastic anemia and paroxysmal nocturnal hemoglobinuria (PRO-AA/PNH)

Kimmo Weisshaar[1], Hannah Ewald[2,3], Jörg Halter[1], Sabine Gerull[1], Sandra Schönfeld[1], Yuliya Senft[1], Maria Martinez[4], Anne Leuppi-Taegtmeyer[5], Nina Khanna[6], Birgit Maier[7], Antonio Risitano[8,9], Regis Peffault de Latour[9,10], Andre Tichelli[1], Jakob Passweg[1] and Beatrice Drexler[1*]

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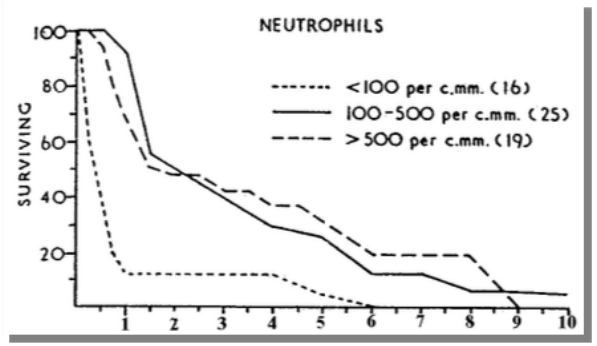
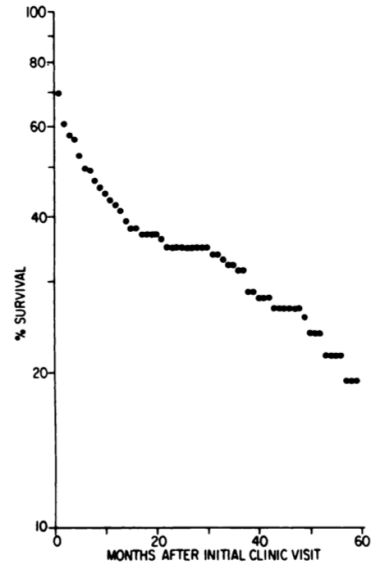
Therapy of acquired AA: History I

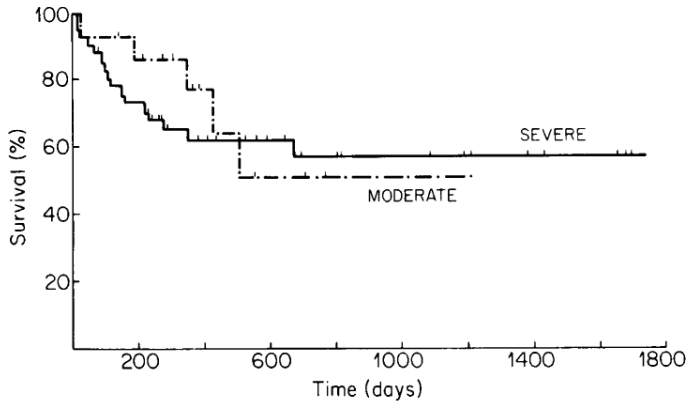
Before the 70ties the disease **was fatal** in most cases



Improved with **supportive treatment in the 70ties**



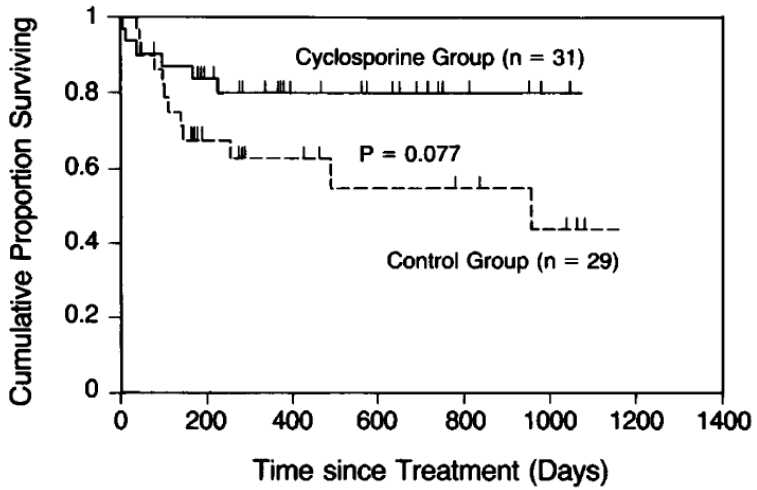
Improved significantly with **ATG since the 70/80 ties**



Lynch, RE et al. *Blood* 1975;45:517-528 Champlin R et al. *NEJM* 1983; 308:113-118

Therapy of acquired AA: History II

Milestone with **Cyclosporine** since the **80ties**



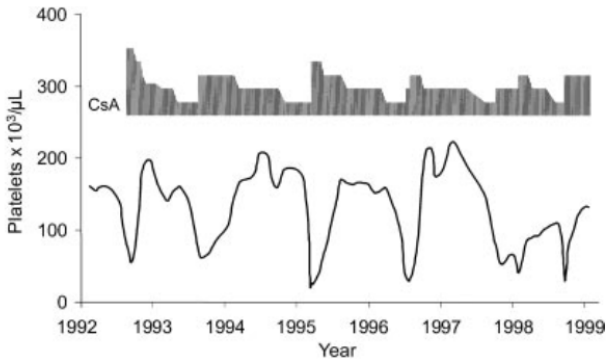
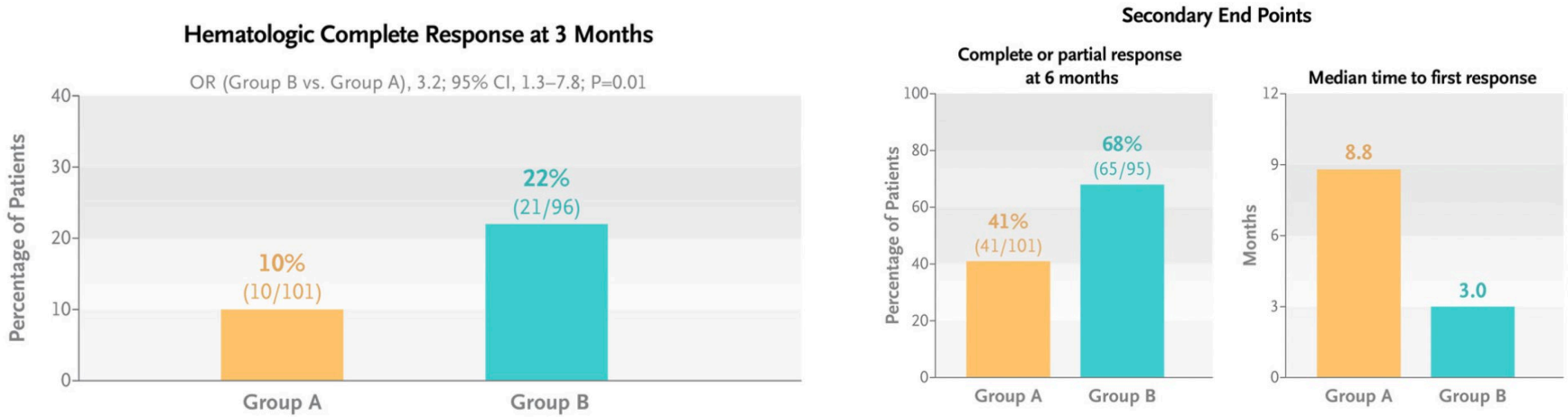


Figure 5. CsA dependence. Example of CsA-dependent remission in a 21-year-old woman with aplastic anemia. Platelet counts are shown because they were most sensitive to changes in CsA dose.

Frickhofen N et al. *NEJM* 1991; 324:1297-1304

Frickhofen N. et al. *Blood*. 2003;101(4):1236-42.

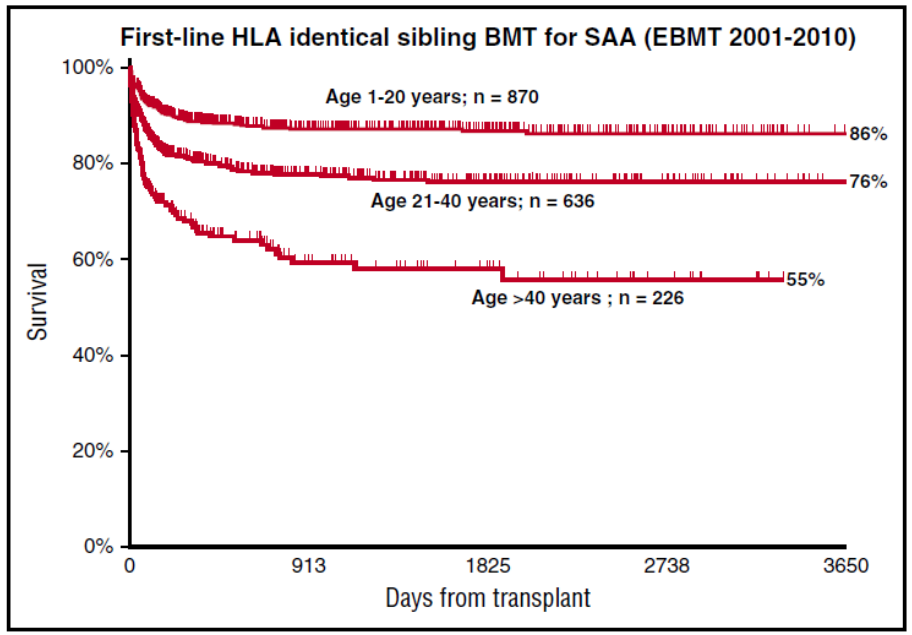
Recently therapy improvements: first-line IST + Eltrombopag



Eltrombopag d14 for 6 months (in case of CR for 3 months) in Group B

Peffault de Latour R et al. N Engl J Med. 2022 Jan 6;386(1):11-23.

Standard: HLA-identical sibling



Upcoming: haploidentical donor

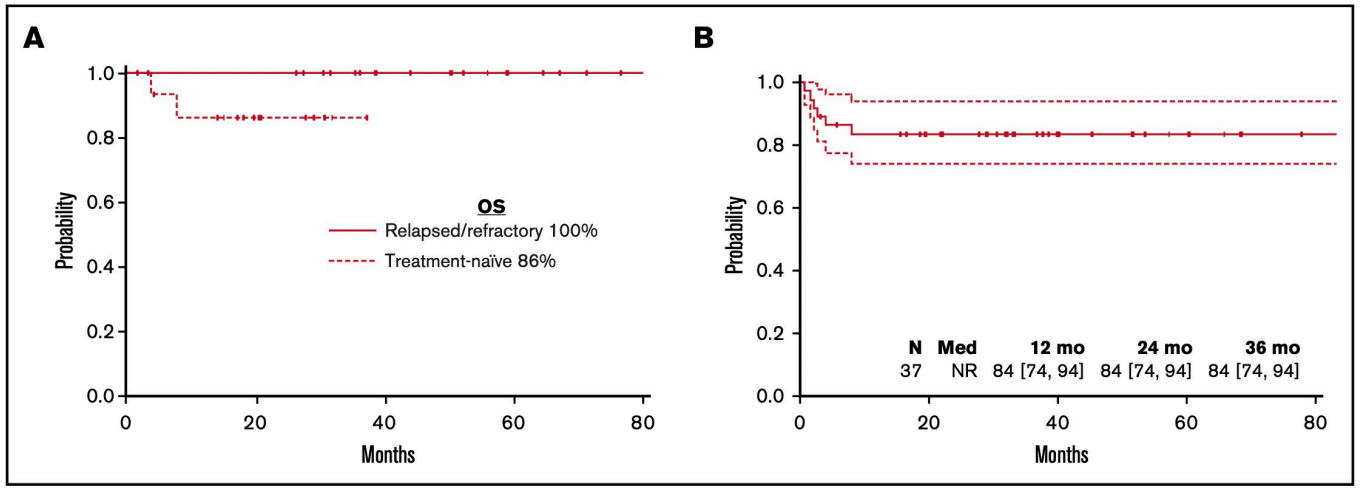
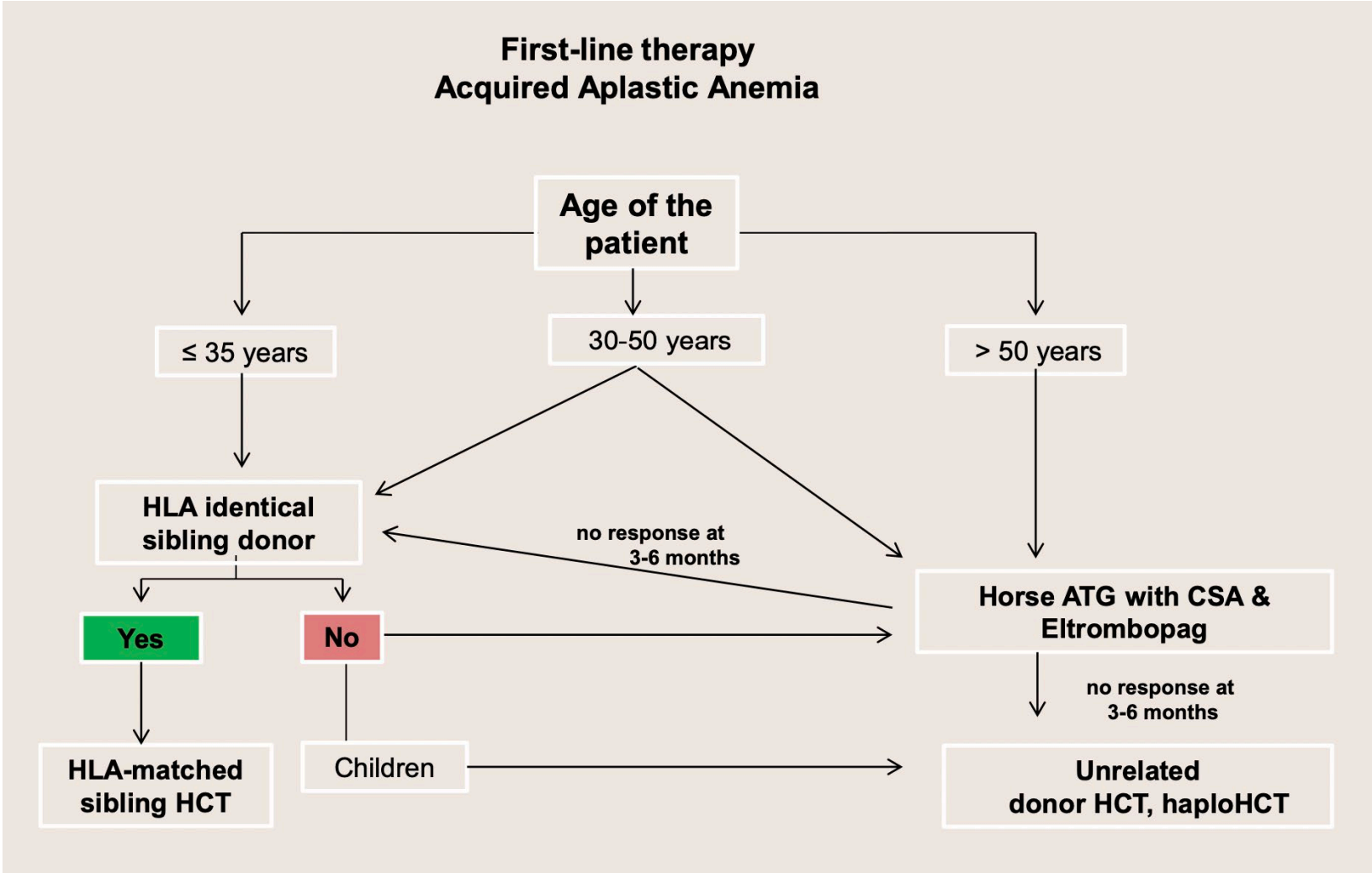


Figure 2. Clinically meaningful endpoints for all haploidentical patients. (A) Overall survival. (B) GVHD-free survival.

DeZern A et al. Blood advances 2020


First-line therapy
Acquired Aplastic Anemia
Age of the patient
≤ 35 years
30-50 years
> 50 years
HLA identical sibling donor
no response at 3-6 months
Yes
No
Horse ATG with CSA & Eltrombopag
no response at 3-6 months
HLA-matched sibling HCT
Children
Unrelated donor HCT, haploHCT

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