

# Trends in Hematopoietic Stem Cell Transplant Activity in Lebanon (2012 – 2016)

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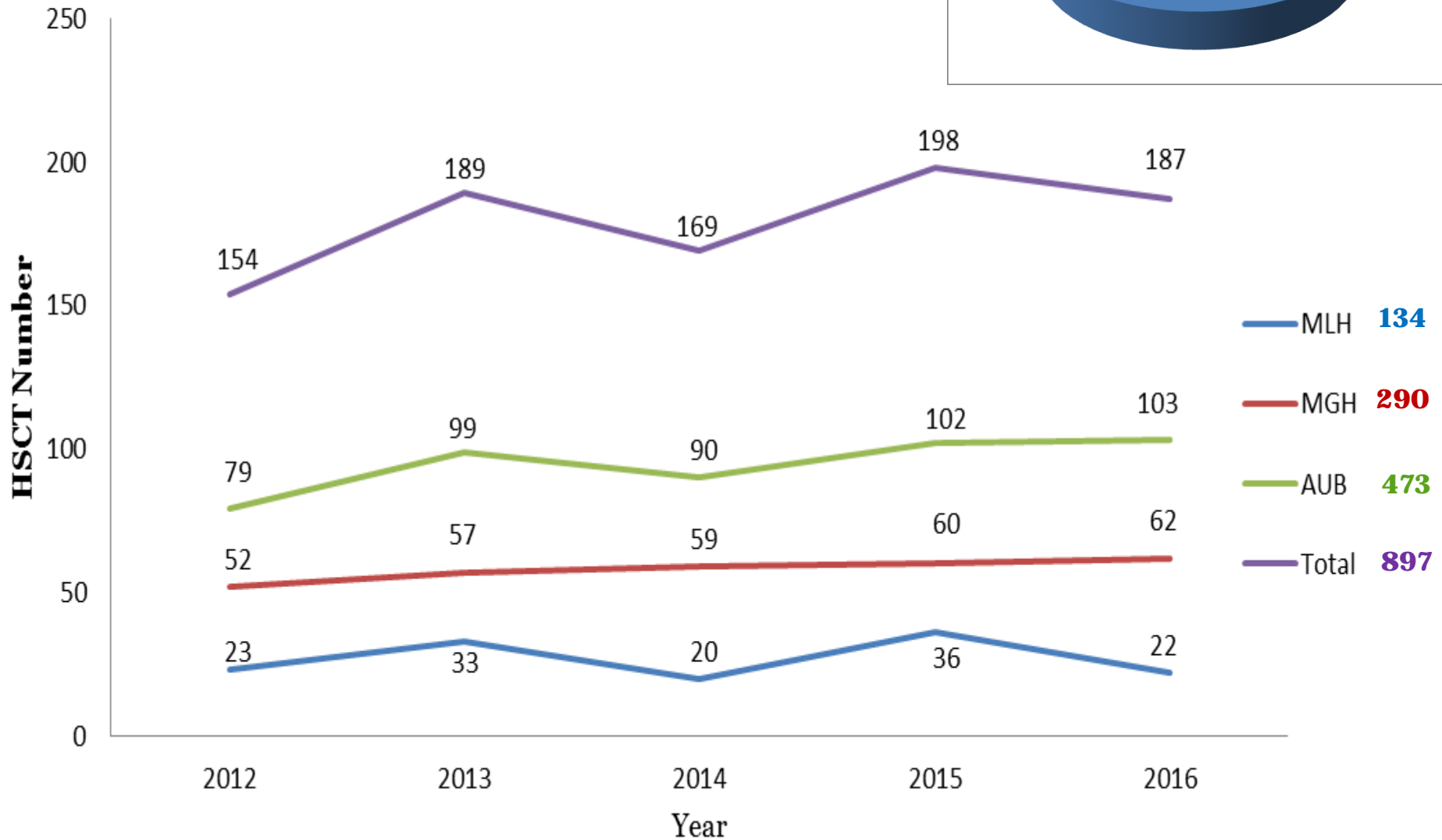
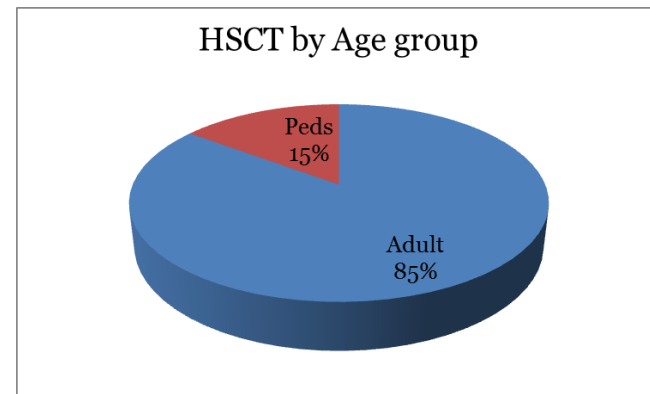
# Lebanon characteristics

- Population: 1.8 million in 1960; 5.8 million in 2015
- Mean life expectancy 79.3 years
- GDP: \$3.3 billion in 1988; \$47 billion in 2015 (World bank)
- Human Development Index (HDI) ranked [67] by the UNDP with a Gross National Income (GNI) per Capita of \$16,509.
- This HDI of 67 is considered a “high” rank on the UNDP list, and is between Oman [52] and Iran [69].
- Overall annual cancer incidence: 382 per 100,000 in 2003; 470 in 2008; foreseen to be 636 cases per 100,000 by 2018
- First BMT: 1997
- External referral mostly from Syria, Iraq, Palestine, expatriates in Gulf countries

# Transplant centers in Lebanon

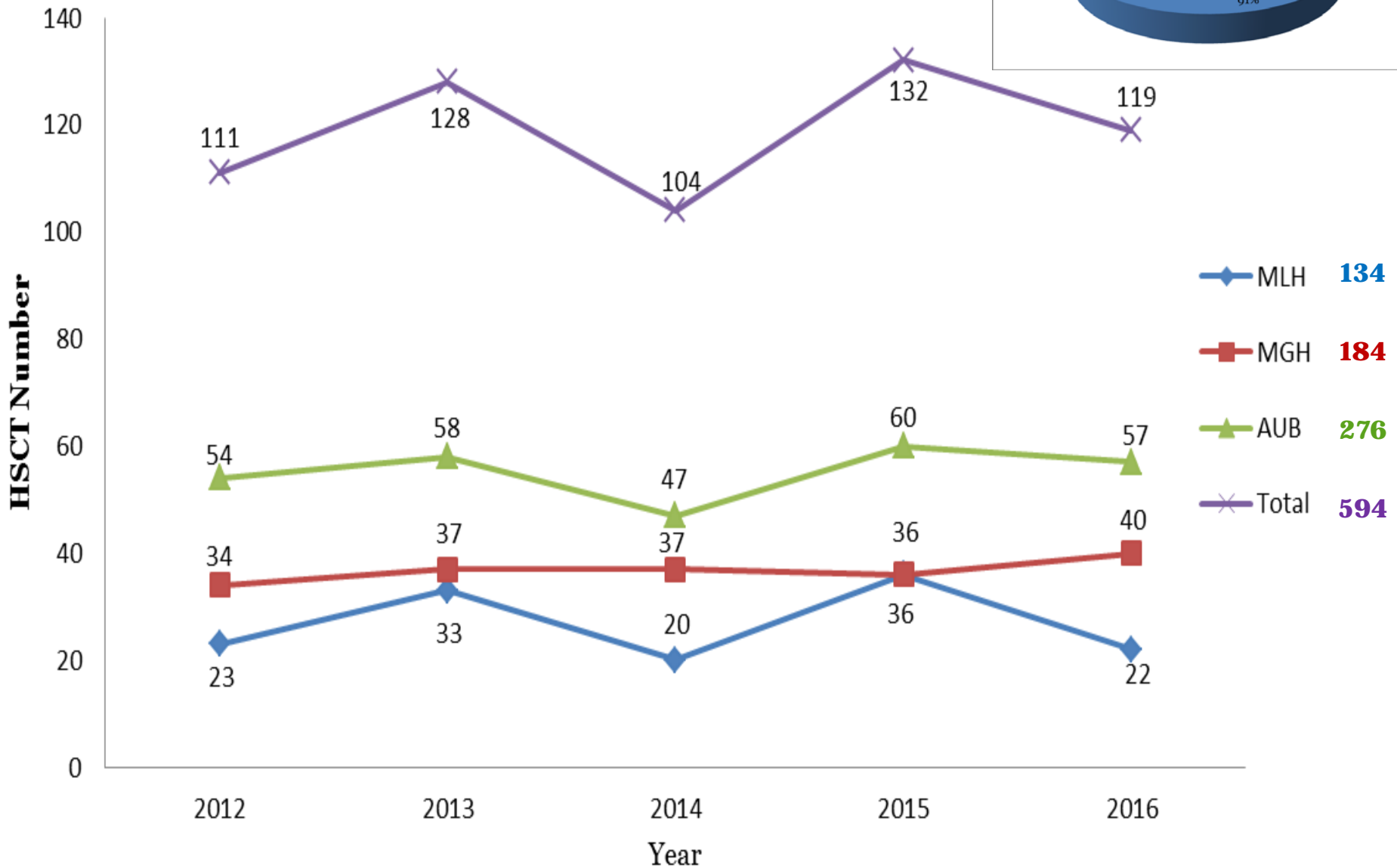
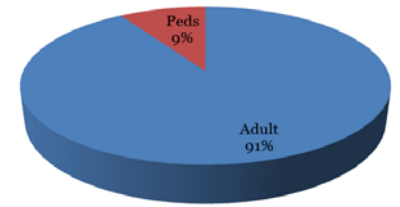
Center	Type of HSCT	Specificities
American University of Beirut	Autologous HSCT Allogeneic HSCT <ul style="list-style-type: none"> <li>• MRD</li> <li>• Haploidentical</li> <li>• MUD</li> </ul>	<ul style="list-style-type: none"> <li>• Largest center in Lebanon</li> <li>• EBMT and EMBMT</li> <li>• NMDP agreement</li> <li>• JACIE accredited</li> </ul>
Makassed Hospital	Autologous HSCT Allogeneic HSCT <ul style="list-style-type: none"> <li>• MRD</li> <li>• Haploidentical</li> </ul>	<ul style="list-style-type: none"> <li>• Historically the first in Lebanon</li> <li>• EBMT and EMBMT</li> <li>• Has Ahmad Ibrahim</li> </ul>
Mount Lebanon Hospital	Autologous HSCT	

# Total HSCT by Center Lebanon 2012 - 2016



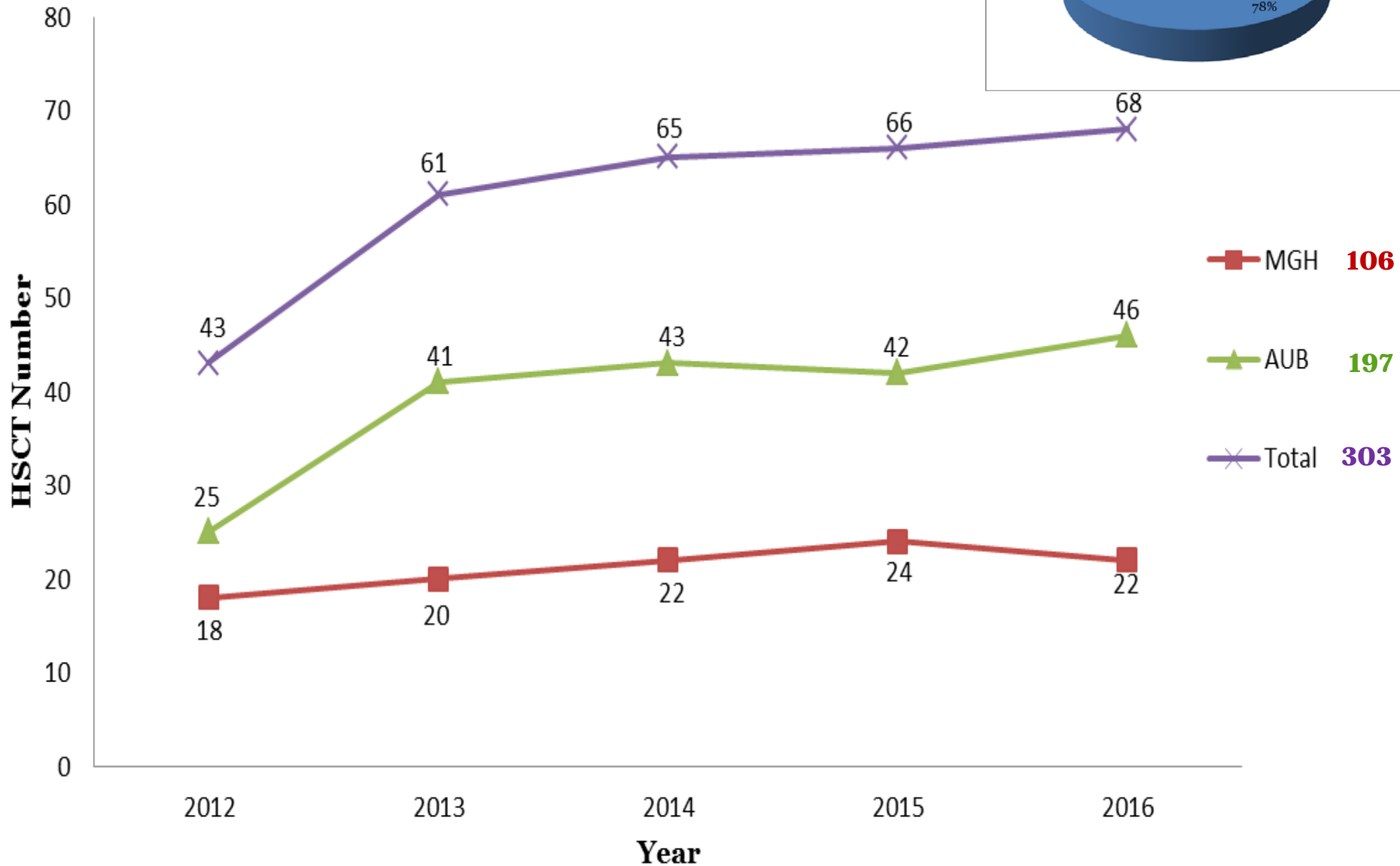
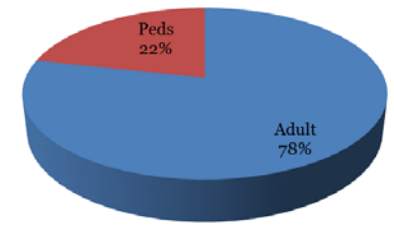
# Autologous HSCT by Center Lebanon 2012 - 2016

Autologous HSCT by Age Group

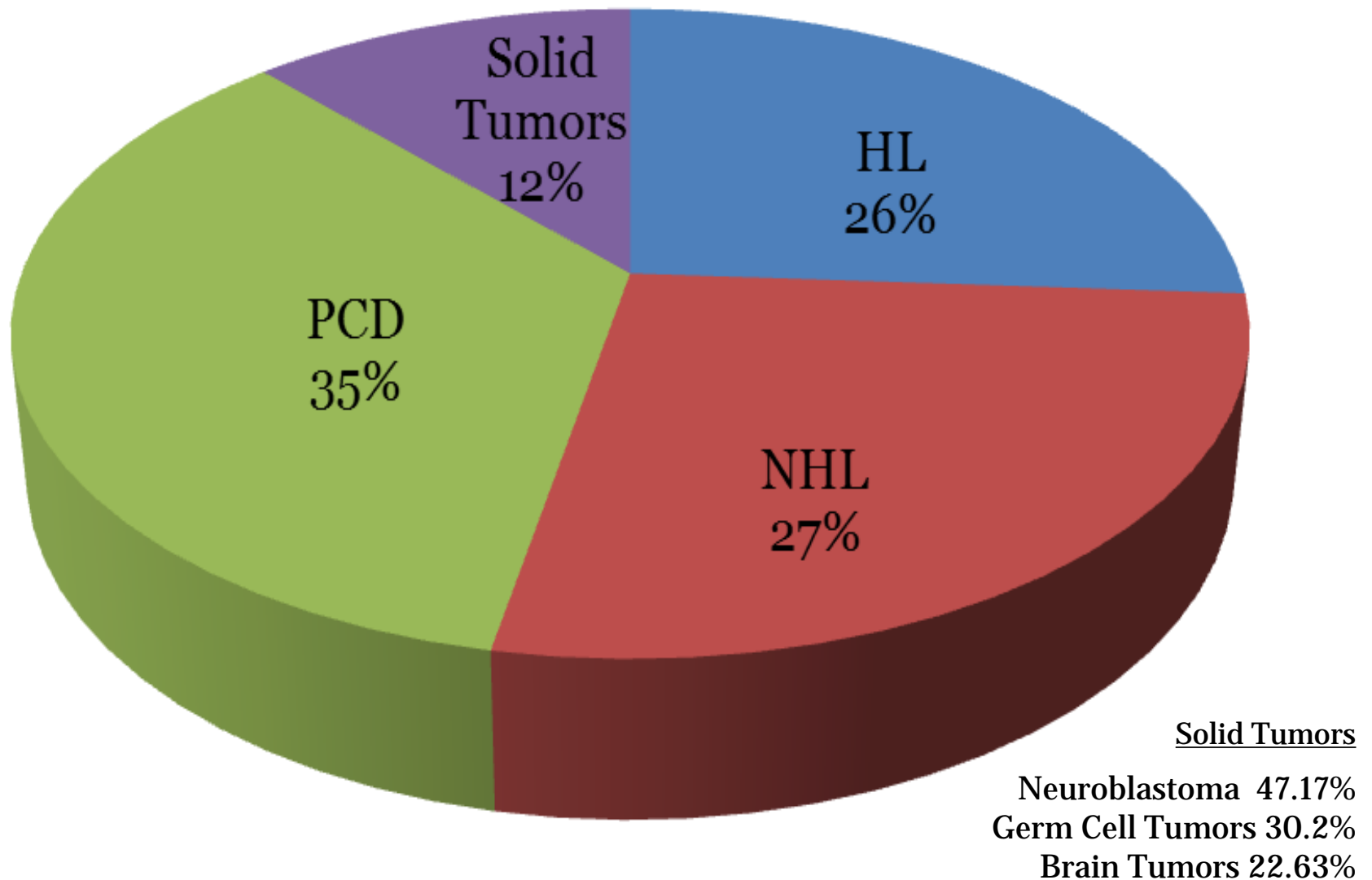


# Allogeneic HSCT by Center Lebanon 2012 - 2016

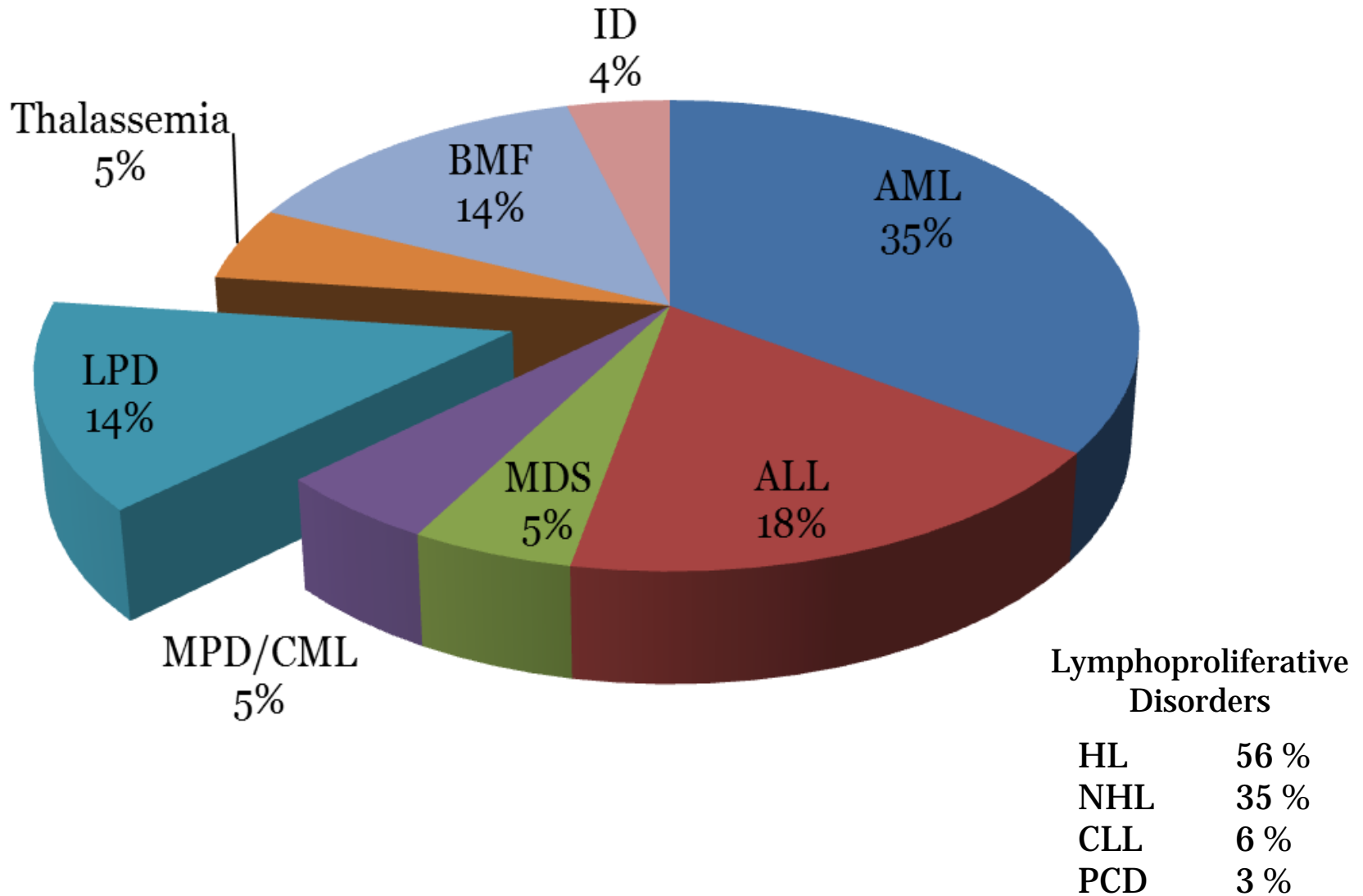
Allogeneic HSCT by Age Group



# Autologous HSCT By Diagnosis

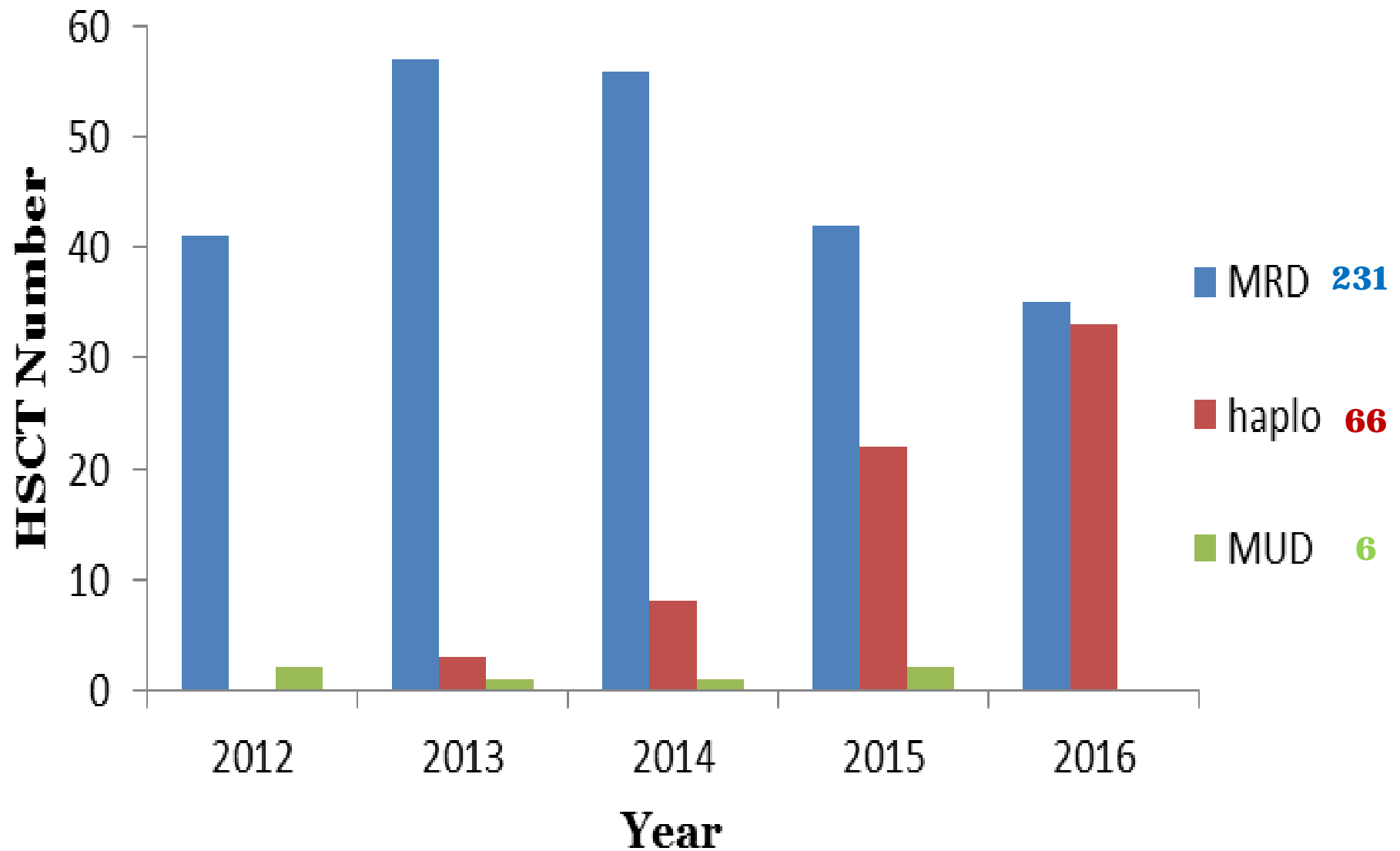


# Allogeneic HSCT (diagnosis)

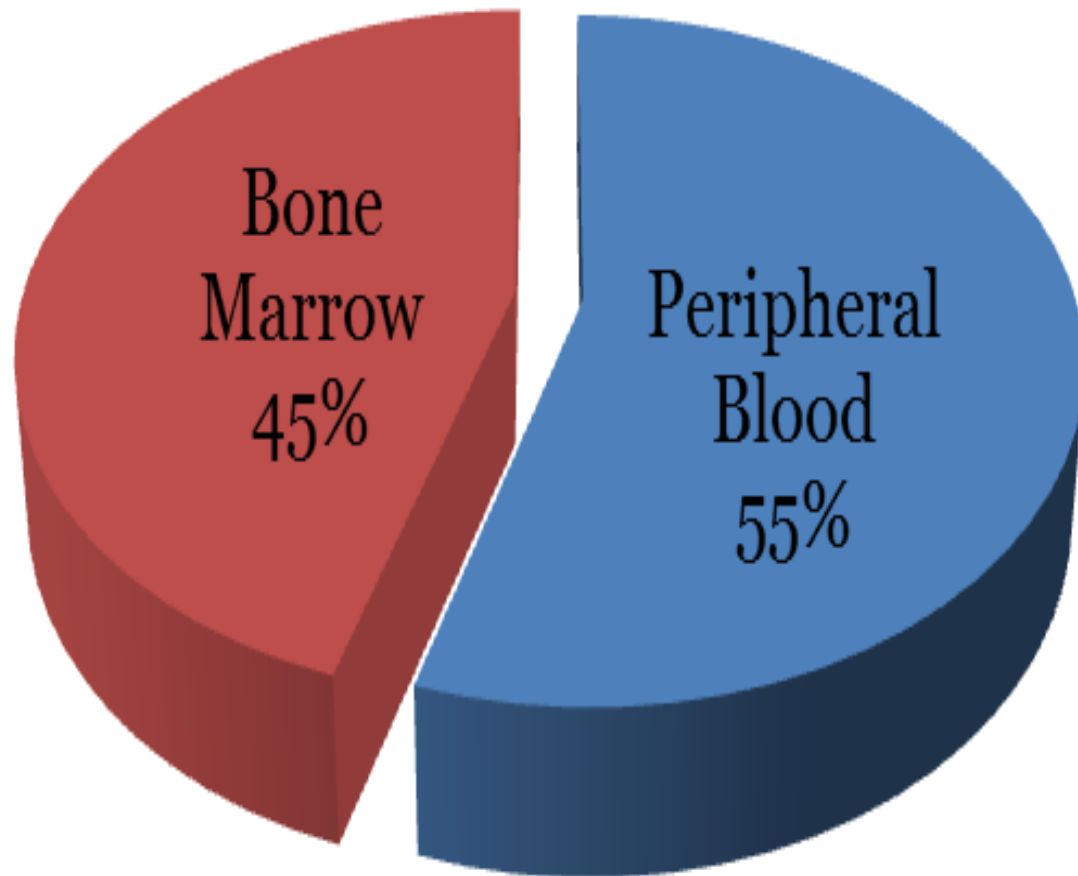




# Allogeneic HSCT - Donor Type



# Stem Cell Source (Allogeneic Donors)



# International registries

- AUBMC and Makassed are members of EBMT and EMBMT
- Annual reporting of transplant data to the EBMT registry and transplant activity to EBMT and EMBMT
- AUBMC has a signed agreement with NMDP for MUD search

# Quality and accreditation

- AUBMC quality program initiated in 2013
- JACIE accreditation in 2016
- Makassed is preparing for JACIE accreditation

# ***The Joint Accreditation Committee ISCT-EBMT (JACIE)***

***hereby declares that***

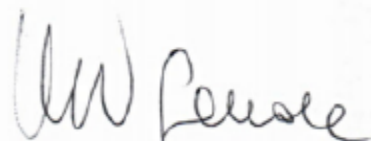


**Riccardo Saccardi**  
*JACIE Medical Director*

**American University of Beirut Medical Center  
Beirut, Lebanon**

has been found to meet the standards as set out in the FACT-JACIE International Standards for Cellular Therapy, edition 5 in the following area(s):

**Autologous & Allogeneic Transplantation in Adult Patients  
Autologous & Allogeneic Transplantation in Paediatric Patients  
Collection of HPC, Marrow  
Collection of HPC, Apheresis  
Cell Processing - minimally manipulated**



**Maria Vittoria Gazzola**  
*Chair, JACIE Accreditation  
Committee*

**Programme Director: Prof. Ali Bazarbachi**

# Challenges

- Financial limitations
- Private practice and lack of referral
- Underrepresentation of middle east in international registries

# Recent developments

- Haploidentical HSCT +++
- Allogeneic HSCT for lymphoma (HL and NHL)
- Reduced toxicity regimen (older patients, patients with comorbidities)
- Sequential conditioning for refractory patients

# Research axis

- Personalized conditioning
- Post transplant maintenance
- Nutritional status



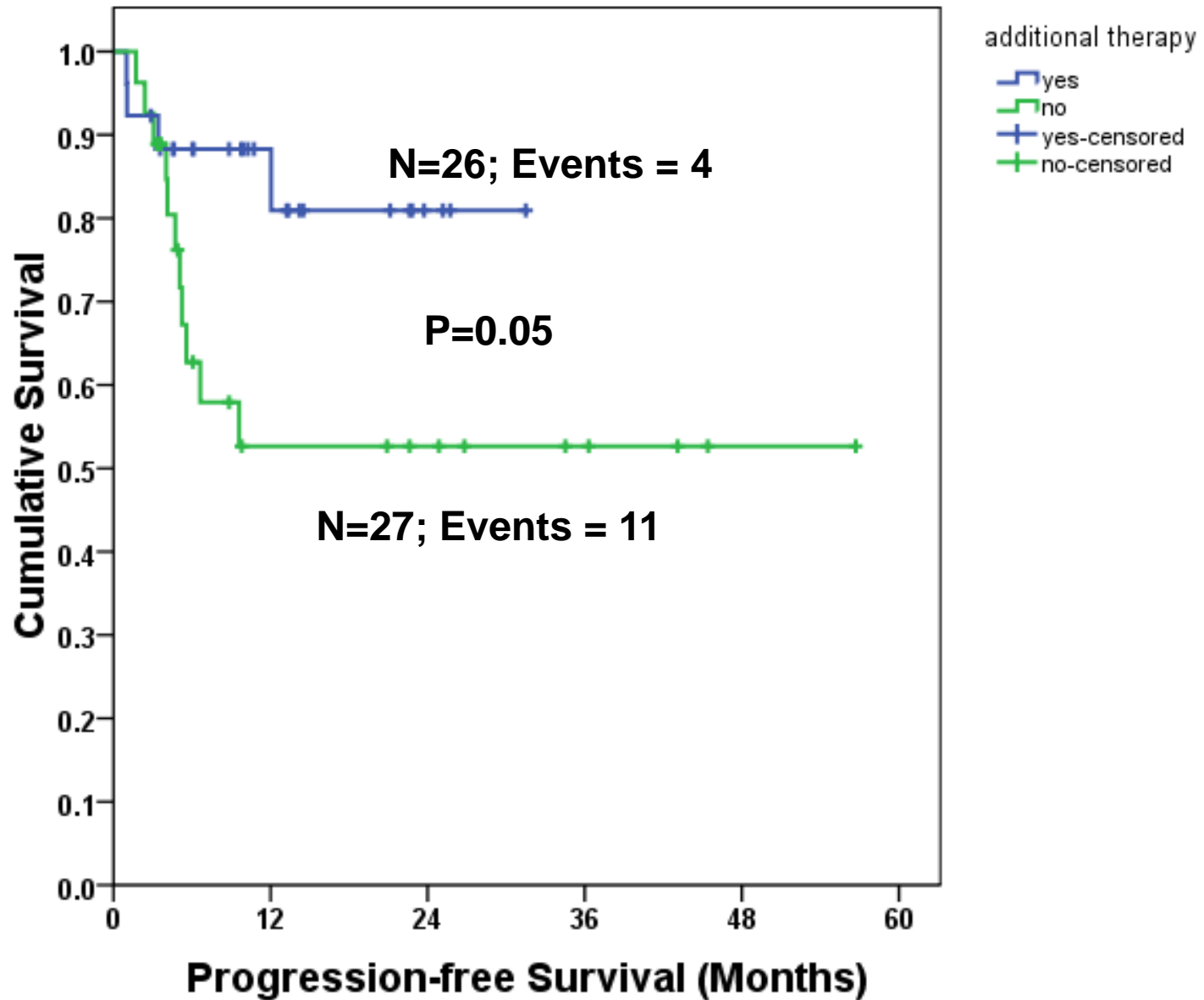
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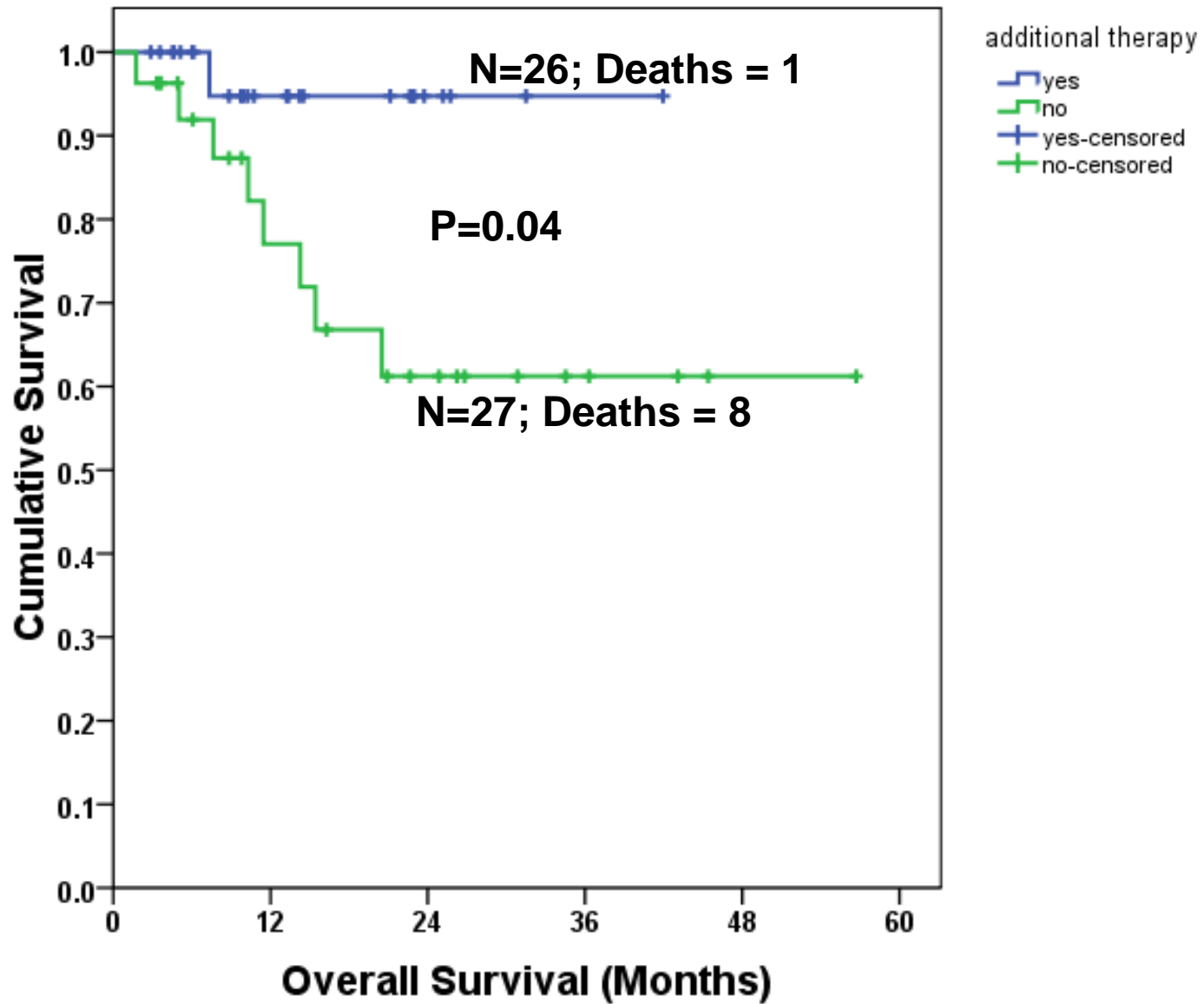
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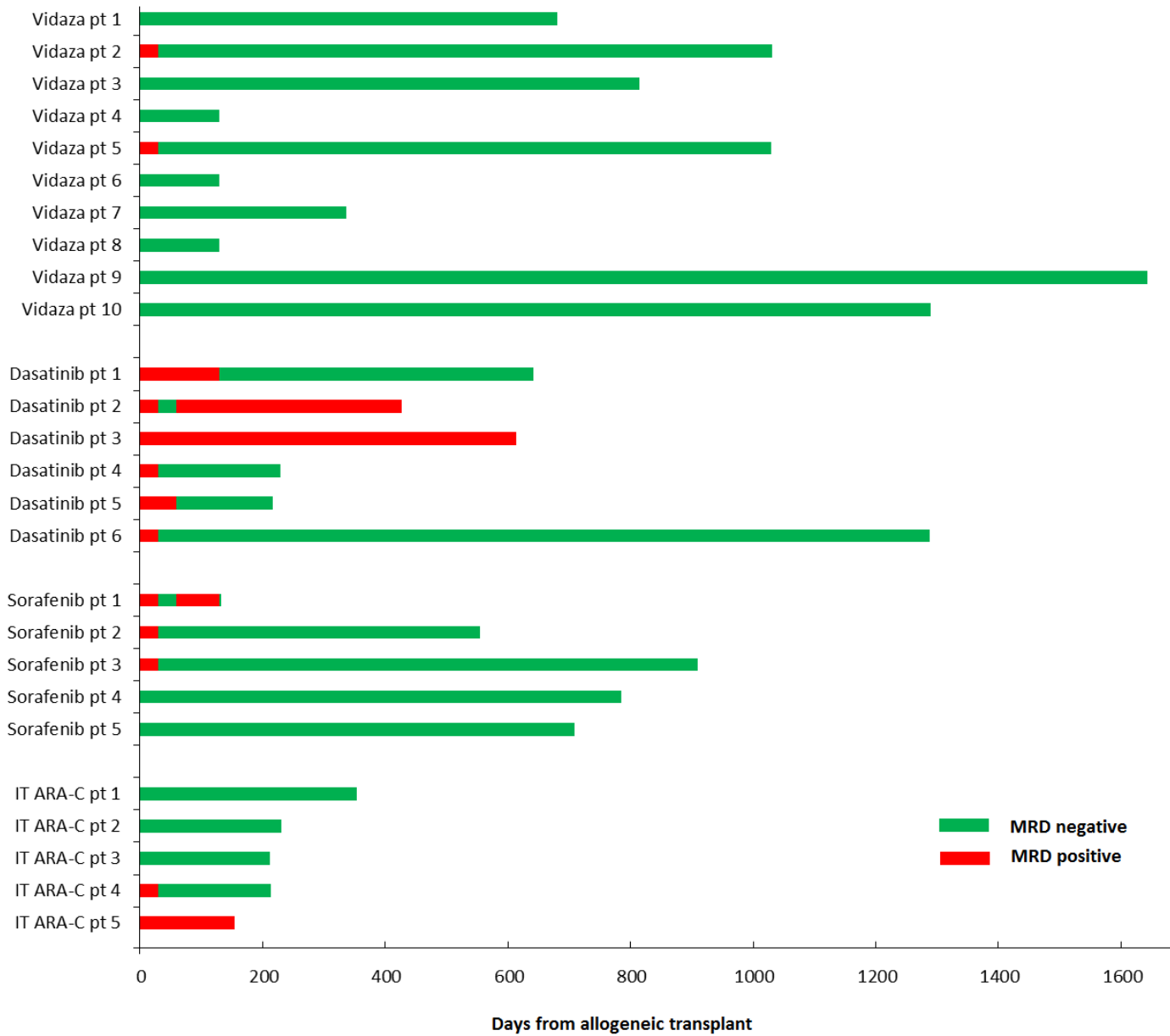
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## Risk-Adapted Approach to HLA-Matched Sibling Hematopoietic Cell Allografting: Impact of Adjusting Conditioning Intensity and Integrating Post-Transplant Therapeutic Interventions.

	Additional therapy (n=26)	No additional therapy (n=25)	P value
Median age at transplant (years)	32	40	0.971
Gender	M=21, F=5	M=18, F=9	0.244
Diagnosis	AML=11, ALL=8, MDS=3, CML=3, MPN=1	AML=15, ALL=4, MDS=3, CML=1, MPN=2, CLL=2	0.384
CIBMTR risk group	Low risk=9, Intermed =12, High risk=4, Other=1	Low risk=14, Intermed=10, High risk=1, Other=2	0.336
Median follow up (months)	12	15.4	0.229







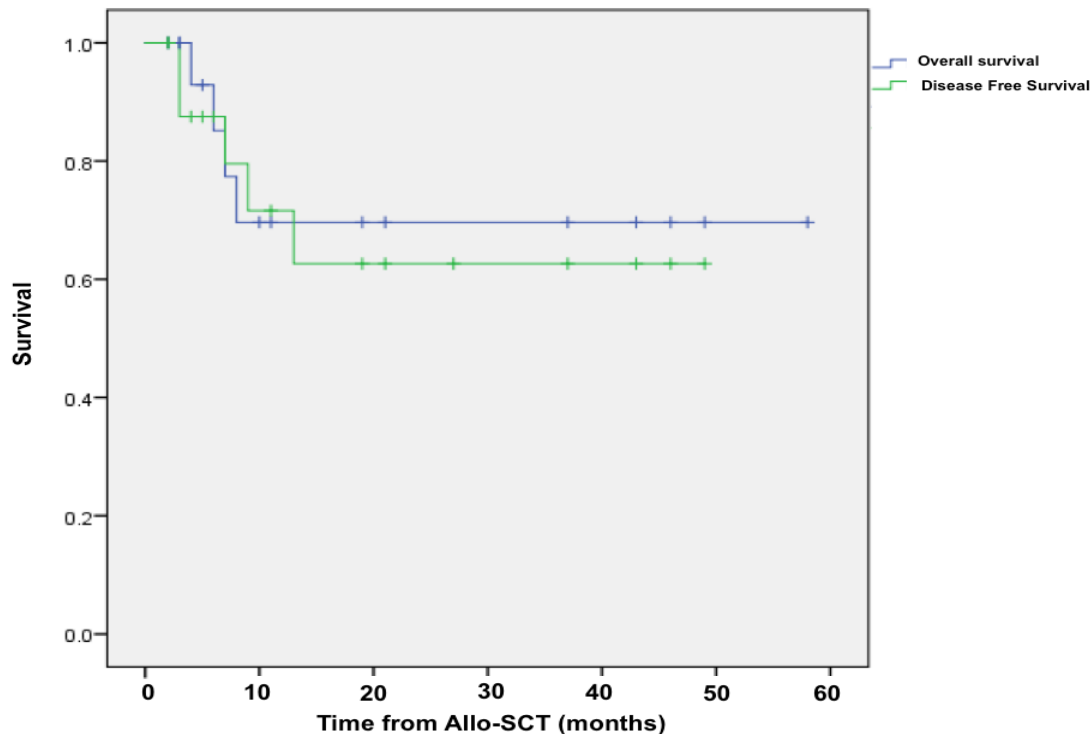
# 5-AZACYTIDINE (VIDAZA) PREVENTIVE THERAPY FOR RELAPSE OF MYELOID MALIGNANCIES FOLLOWING ALLOGENEIC HEMATOPOIETIC SCT

Jean El Cheikh, Radwan Massoud, Elie Fares, Nabila Kreidieh, Rami Mahfouz, Mohamed Kharfan-Dabaja, Ali Bazarbachi

Bone Marrow Transplantation (2016), In press

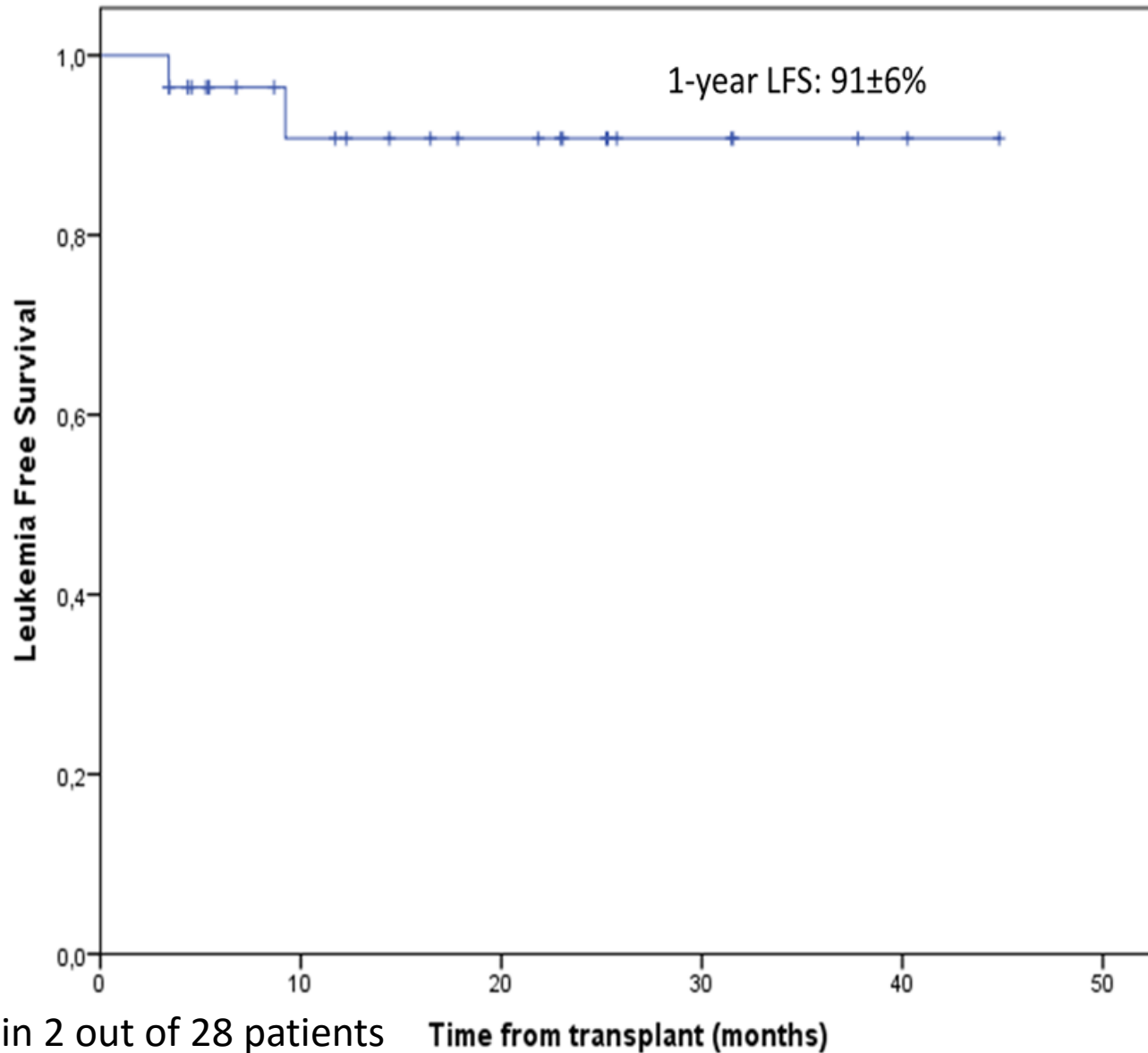
- 18 high risk patients (13 AML and 5 MDS).

At the last follow up 13 patients (72%) are alive in complete remission and full donor chimerism. **1-year DFS and OS were 63% and 70%, respectively.**

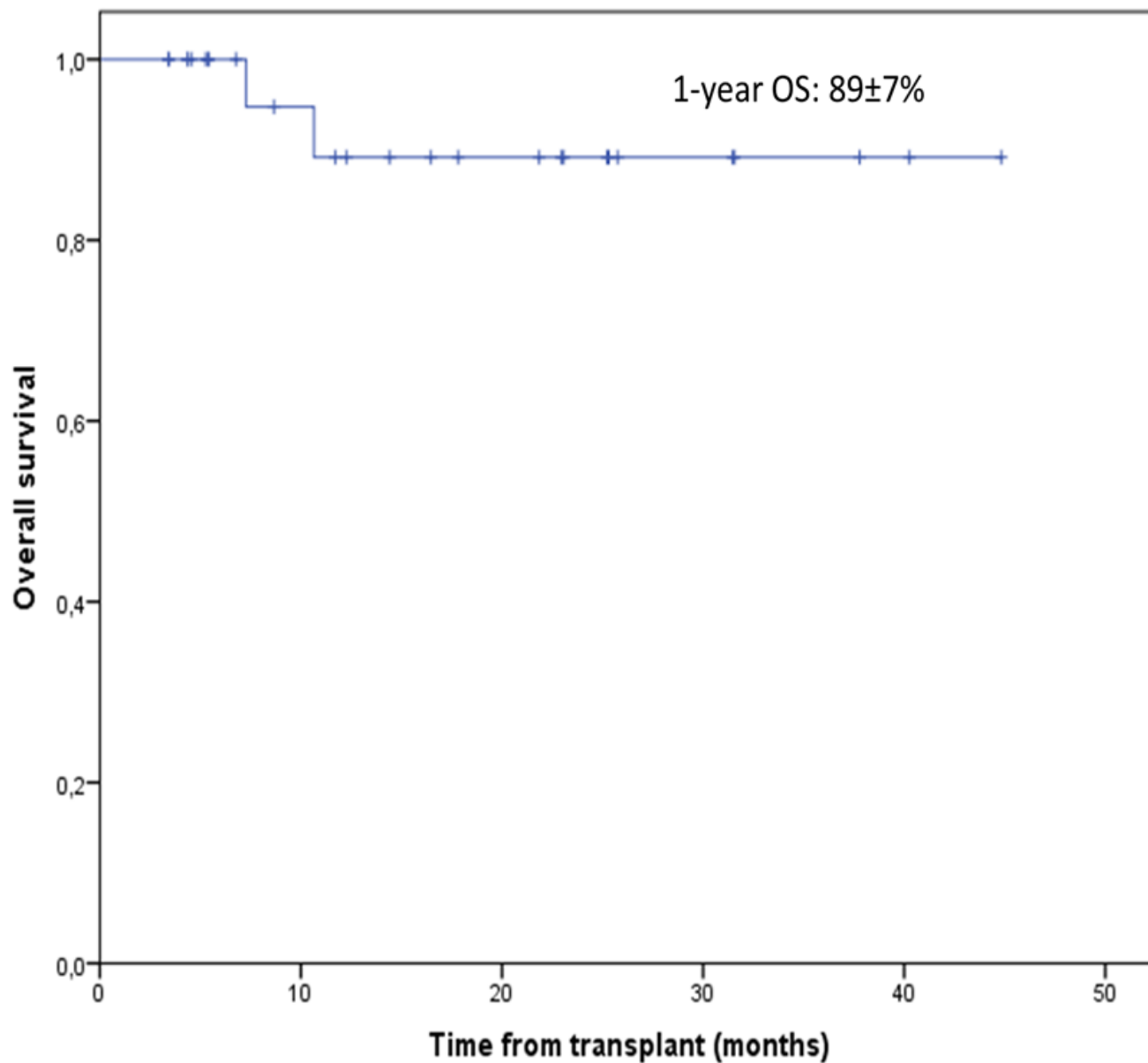




# Sorafenib for prevention of AML relapse post allo-SCT in cases of Flt3 mutations



# Sorafenib for prevention of AML relapse post allo-SCT in cases of Flt3 mutations



Death (due to relapse) occurred in 2 out of 28 patients