BSH 2020 VIRTUAL
9 -14 NOVEMBER
British Society for Haematology 60 1960–2020
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Outcomes of Allografts for Acute Myeloid Leukaemia and Myelodysplastic syndromes in Patients aged over 60 years and over 65 years are Not Inferior to those of Younger Patients: a single centre study

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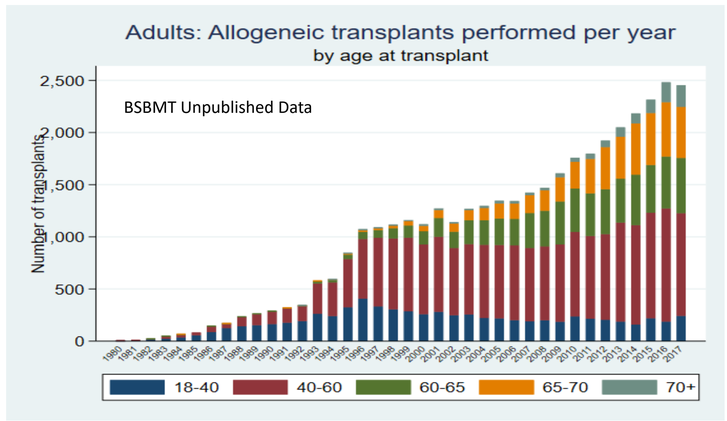
INTRODUCTION

- AML and MDS have an increased incidence with age
- Allo-HSCT important curative treatment but has previously been unavailable to older patients due to fears of increased treatment related morbidity and mortality
- Has recently been an increase in the number of older patients benefiting from this treatment thanks to
  - HCT-CI scores to select suitable patients
  - RIC and NMA conditioning to reduce toxicity



AIM

- To compare the outcomes of allo-HSCT in AML and MDS patients aged over 60 years and over 65 years at time of allogeneic transplant with younger patients in Nottingham from 2014 to 2018
- To also analyse outcomes with respect to HCTCI scores and HLA matching

PATIENT DEMOGRAPHICS

- 152 patients were identified for the study
- Median age 62.2 years – majority of patients were aged > 60 years (60.5%)
- More patients aged > 60 years had diagnosis of MDS
- Most patients received RIC conditioning regimens

Age Demographics

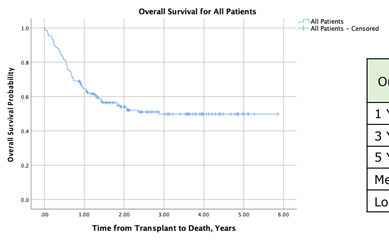
<50	21.7%	33
<60	39.5%	60
≥ 60	60.5%	92
≥ 65	38.2%	58
≥ 70	11.8%	18
Range	18.7 – 74.2 years	

Demographic		<60 (n = 60)		≥60 (n = 92)		Total (n = 152)		P - Value
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
Sex	Male	33	55.0	60	65.2	93	61.2	0.118[a]
	Female	27	45.0	32	34.8	59	38.8	
Diagnosis	AML	51	85.0	63	68.5	114	75.0	0.021[a]
	MDS	9	15.0	29	31.5	38	25.0	
Comorbidity Score	<3	33	55.0	59	64.1	92	60.5	0.260[a]
	≥3	27	45.0	33	35.9	60	39.5	
	Median	2		2		2		
	Range	0 - 5		0 - 8		0 - 8		
Conditioning	TBI	9	15.0	0	0.0	9	5.9	0.001[b]
	FLAMSA	3	5.0	7	7.6	10	6.6	
	FLAG	5	8.3	4	4.3	9	5.9	
	FLU	28	46.7	52	56.5	80	52.6	
	FMC	15	25.0	29	31.5	44	28.9	
Cell Source	MUD	48	80.0	73	79.3	121	79.6	0.922[a]
	Sibling	12	20.0	19	20.7	31	20.4	
Matching	9/10	9	15.0	11	12.0	20	13.2	0.587[a]
	10/10	51	85.0	81	88.0	132	86.8	

a – used chi squared test b – used Fisher's exact test

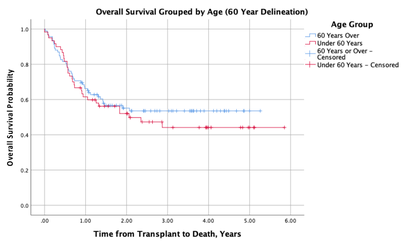
RESULTS

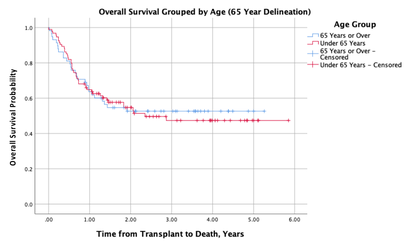
Overall Survival – no difference in > 60 yrs or > 65yrs



Overall Survival

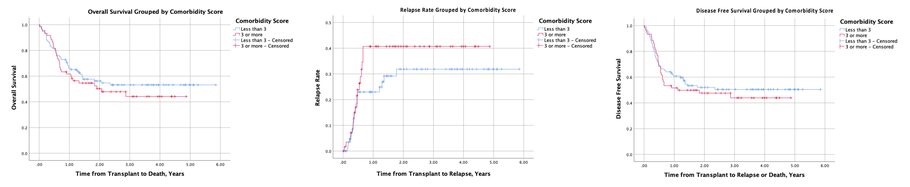
Outcome	All	60 Year Delineation		65 Year Delineation	
		<60 Years	≥ 60 Years	<65 Years	≥ 65 Years
1 Year OS	64.4%	61.5%	66.2%	64.8%	63.7%
3 Year OS	49.8%	44.1%	53.5%	47.4%	52.6%
5 Year OS	49.8%	44.1%	53.5%	47.4%	52.6%
Median	2.87 Years	2.06 Years	-	2.35 Years	-
Log-rank	-	0.503		0.878	

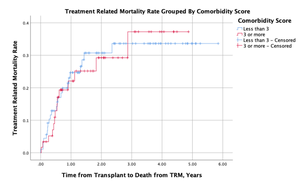




Outcomes by HCT-CI Score > 3

Outcome	Cut-Off Score of 3		Cut-Off Score of 4	
	<3	≥3	<4	≥4
3-year OS	53.2%	44.2%	51.9%	35.5%
3-year EFS	50.4%	43.9%	49.8%	35.5%
3-year RR	32%	41%	35%	38%
3-year TRMR	34%	37%	30%	63%

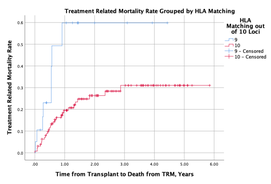




Comorbidity Score (Cut-off Score of 3)

	Overall Survival		Disease Free Survival		Relapse Rate		Treatment Related Mortality Rate	
	<3	≥3	<3	≥3	<3	≥3	<3	≥3
1	66.1%	61.6%	60.8%	51.6%	23%	41%	25%	22%
3	53.2%	44.2%	50.4%	43.9%	32%	41%	34%	37%
5	53.2%	-	50.4%	-	32%	-	34%	-
Median	-	2.07 Years	-	1.12 Years	-	-	-	-
Log Rank	0.429		0.552		0.384		0.920	

Outcomes by HLA matching 9/10 vs 10/10



HLA Matching

	Overall Survival		Disease Free Survival		Relapse Rate		Treatment Related Mortality Rate	
	9	10	9	10	9	10	9	10
1-year	45.0%	67.3%	35.0%	60.5%	35%	28%	60%	19%
3-year	30.0%	53.0%	30.0%	50.8%	50%	33%	60%	31%
5-year	-	53.0%	-	50.8%	-	33%	-	31%
Median	0.57 Years	-	0.55 Years	-	1.21 Years	-	0.9 Years	-
Log Rank	0.006		0.015		0.273		0.023	

CONCLUSIONS

- Majority of allografts for MDS/AML at NUH occur in pts aged > 60 yrs
- Age >60 and >65 did not affect outcomes
- May be due to more stringent selection of older pts (HCT-CI median =2, only 35% > 3)
- HCT-CI score >3 and >4 did not affect outcomes – unlike other studies. This may be due to the older patients mainly having low HCTCI scores
- Only 9/10 HLA matching associated with inferior outcomes (higher TRM)
- Allo-HSCT can be successfully performed in patients >60 years as long as careful selection by HCT-CI and receive RIC and 10/10 transplants
- Nihilistic attitudes of the past can be replaced by cautious optimism but uncertain as to what % of older patients actually make it to allograft

REFERENCES