Impact of early relapse on survival of patients with multiple myeloma after autologous stem cell transplantation

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Background

The survival of patients with multiple myeloma (MM) has improved in recent years due to the combination of new treatments together with autologous stem cell transplantation (ASCT) and maintenance therapy.

Early relapse (ER) has been identified as an independent risk factor for shorter overall survival (OS) having even a greater impact than high-risk cytogenetic alterations

Objective

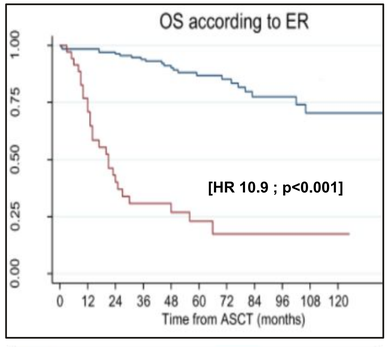
Evaluate OS of patients with ER and review the factors associated.

Design

Retrospective, observational and single center study that included patients with MM who received bortezomib-based induction therapy and ASCT from 2010 to 2020. ER was considered as relapse or progression within 12 months after ASCT.

Results

- **We included a total of 200 patients comparing the group with ER vs the non-ER patients (NER). The most common induction treatment used was CyBorD in the ER group 23 (74%) vs. 124 (74%) in NER patients; followed by VTD and RV**
- **From the entire cohort 104 (52%) patients received maintenance, the 71% with lenalidomide. Complete response post-transplantation was achieved in 103 (51%) patients. After a median follow-up of 37.5 months (IQR; 15-67), the median PFS was 48 months (95% CI; 40-60).**
- **A total of 31 patients (16%) presented ER, with a median relapse time of 7 months (95% CI; 4-9). These patients had more frequently ISS III (48% vs 32%, p 0.05) and partial response to treatment (32% vs 14%, p 0.06) with less frequent maintenance therapy (32% vs 56%, p 0.01).**
- **The OS at 5 years for patients with ER was 22% with a median of 21 months; vs 86% at the same time in the NER group with a median not reached. ER was one of the most important prognostic factors for decreased survival after ASCT (hazard ratio, 9.26, p<0.001), even adjusting for cytogenetic risk.**



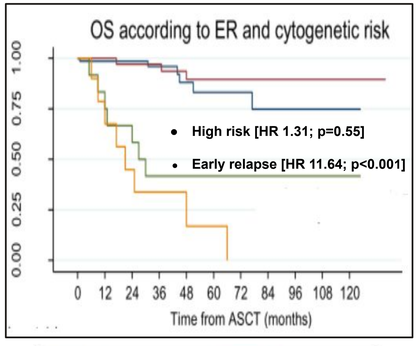


Table 1.Baseline characteristics of patients and comparison of patients with ER vs. NER

Variable	All patients (n=200)	ER (n=31)	NER(n=169)	P
Median Age at ASCT, years (range)	60 (32-74)	58 (37-72)	60 (32-74)	0.46
Masc, n (%)	110 (55%)	14 (55%)	96 (57%)	0.23
International staging system				0.18
ISS I,n (%)	93 (48%)	12 (39%)	81 (49%)	
ISS II, n (%)	36 (18%)	4 (13%)	32 (19%)	
ISS III,n (%)	67 (34%)	15 (48%)	52 (32%)	
Cytogenetic				0.79
Standard Risk	74 (37%)	10 (32%)	64 (38%)	
High Risk	44 (22%)	8 (26%)	36 (21%)	
Missing	82 (41%)	13 (42%)	69 (41%)	
Best response				0.02
CR/sCR	103 (51%)	10 (34%)	93 (56%)	
VGPR	62 (32%)	10 (34%)	52 (30%)	
PR	35 (17%)	9 (32%)	26 (14%)	
Maintenance				0.01
YES	104 (53%)	10 (32%)	94 (56%)	
NO	94 (47%)	21 (68%)	73 (44%)	

Conclusions

ER represents a poor prognosis even with new treatment options and beyond cytogenetic risk.

Identifying prognostic factors associated with ER could be useful for performing a risk-adapted treatment.

In addition, these groups of patients should be incorporated into clinical trials with the purpose of identifying useful and novel rescue treatments in the future.

References

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