

Allogeneic Hematopoietic Cell Transplantation for Multiple Myeloma: Searching for the Optimal Patient Population

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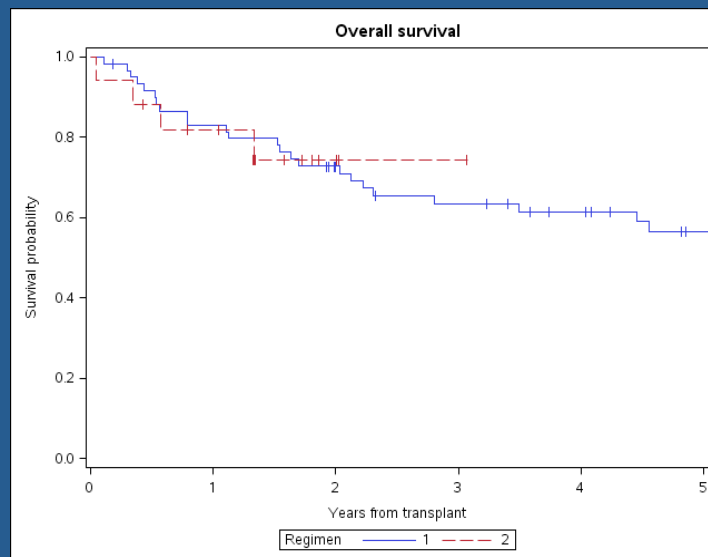
Background

- Multiple myeloma (MM) remains a difficult disease to treat
- Novel agents and autologous hematopoietic cell transplantation (auto-HCT) have improved survival
- The only potential curative option for MM remains allogeneic hematopoietic cell transplant (allo-HCT)
- Allo-HCT is often done in tandem with auto-HCT
- Limited evidence on optimal population for allo-HCT
- We analyzed our institution's experience with allo-HCT in MM to better define an optimal patient population

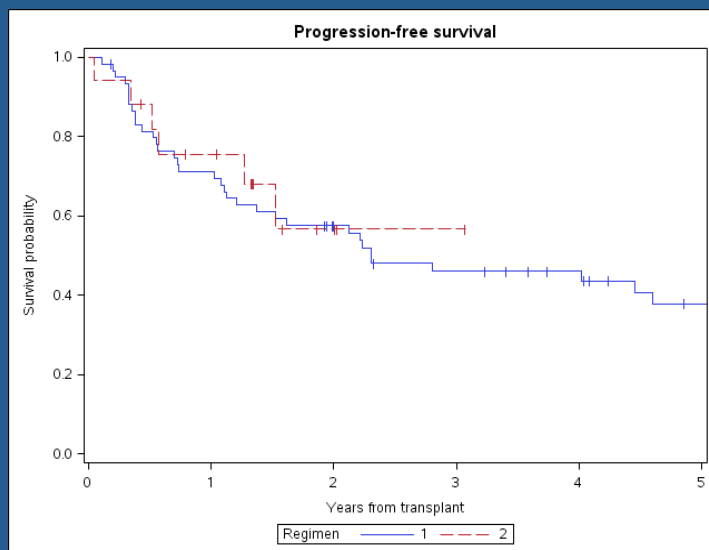
Methods

- Single institution analysis at Medical College of Wisconsin
- Data collected 2002-2013
- 77 consecutive patients post tandem allo-HCT following auto-HCT
- Affect of patient characteristics on overall survival (OS), progression free survival (PFS) and non relapse mortality (NRM).
 - Conditioning regimen: myeloablative vs non-myeloablative
 - FISH risk factors
 - High risk t (4:14), 17p deletion or t (14:16)
 - Standard risk (patients without high risk features)
 - Multivariate analysis:
 - Age, stage at allo-HCT and time between auto-HCT and allo-HCT

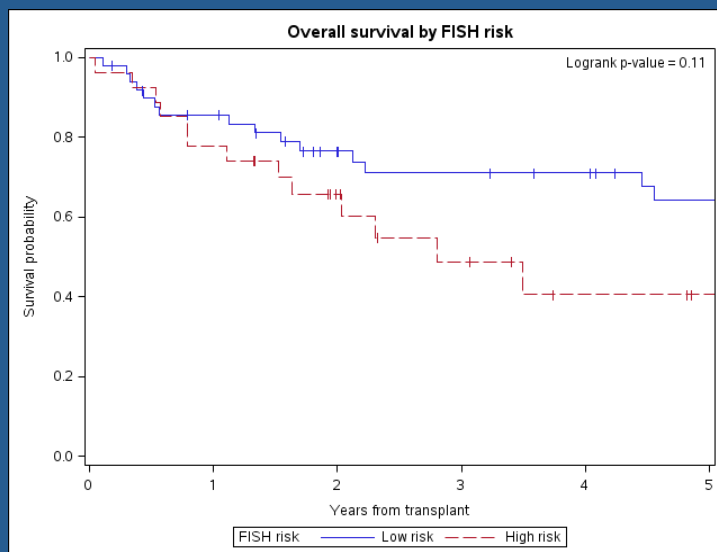
Results: OS by Conditioning



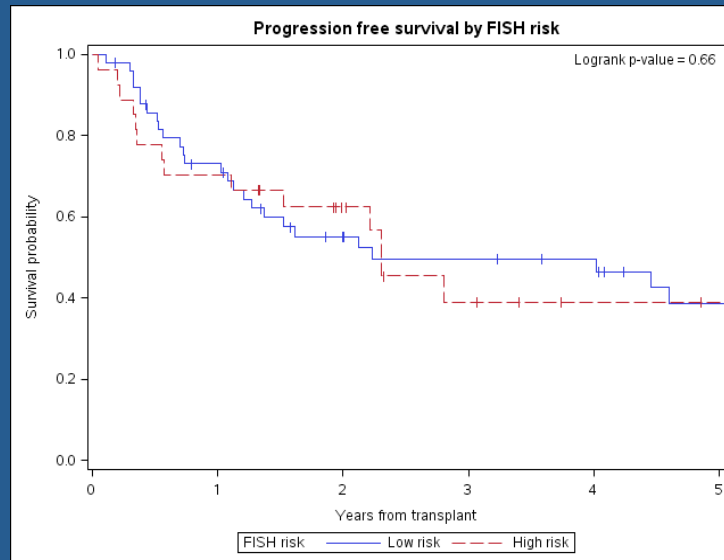
Results: PFS by Conditioning



Results: OS by FISH Risk



Results: PFS by FISH Risk



Results

- Multivariate Analysis
 - Increased Overall Survival
 - Younger age (HR 1.06 95% CI 1.015, 1.120, p=0.0112)
 - Complete remission (CR) at allo-HCT (HR 0.15 95% CI 0.046, 0.485, p=0.0015)
 - Shorter time interval from auto-HCT to allo-HCT (HR 1.04, 95%CI 1.008, 1.072, p=0.01)

Results

- Multivariate Analysis
 - Increased Progression Free Survival
 - Complete remission at allo-HCT (HR 0.332, 95% CI 0.115, 0.959, p=0.041)
 - Worsened Non-relapse Mortality
 - Increasing age (HR, 1.07, 95% CI 1.001, 1.146, p= 0.047)
 - Non-remission at allo-HCT (HR 0.164, 95% CI .035, .770, p=0.021)

Conclusions

- Myeloablative vs non-myeloablative conditioning similar survival
- High FISH risk vs standard FISH risk similar survival
- Typically expect high FISH risk to be associated with worse survival
- Findings suggest allo-HCT may have an ameliorating effect on biologic risk

Conclusions

- Optimal patient population for allo-HCT
 - Younger age
 - Complete remission at time of allo-HCT
 - Short interval between auto-HCT and allo-HCT
 - High FISH risk may have increased benefit
- Additional clinical trials are needed to further clarify the role of allo-HCT in MM treatment