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Outcomes of Older Patients Undergoing 2-Step Approach to Haploidentical and Matched Related Peripheral Blood Hematopoietic Stem Cell Transplantation (HSCT): A Single Institutional Experience

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Introduction

- HSCT is a curative option for many patients (pts) with hematological malignancies.
- Significant advances in supportive care and conditioning regimens over the past decade have allowed the extension of this therapy to older individuals.
- Information regarding the outcomes of this older subset of pts undergoing HSCT is limited, especially those undergoing haploidentical (HI) HSCT.

Methods

- We did a retrospective chart review of outcomes in pts 60 years of age or older undergoing haploidentical and matched related HSCT trials.
- Details of the 2-step approach are shown in figure 1.

Results

- Multivariate statistics using cox regression analysis identified the following factors affecting:

  I. Overall survival:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hazard Ratio</th>
<th>Lower 95% CI</th>
<th>Upper 95% CI</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPS 60-80 vs 90/100</td>
<td>6.2</td>
<td>2.74</td>
<td>14.02</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age 60 – 78 years</td>
<td>1.12</td>
<td>1.01</td>
<td>1.23</td>
<td>0.033</td>
</tr>
<tr>
<td>HCT-CI (0 vs &gt;0) and presence of active disease at the time of transplant</td>
<td>22 (79)</td>
<td>22 (65)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

  II. Non-Relapse Mortality:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hazard Ratio</th>
<th>Lower 95% CI</th>
<th>Upper 95% CI</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPS 60-80 vs 90/100</td>
<td>7.37</td>
<td>2.48</td>
<td>21.94</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age 60 – 78 years</td>
<td>1.37</td>
<td>1.11</td>
<td>1.68</td>
<td>0.003</td>
</tr>
<tr>
<td>Conditioning: MA vs RIC</td>
<td>6.6</td>
<td>1.15</td>
<td>37.87</td>
<td>0.034</td>
</tr>
<tr>
<td>CD34 Dose (x 10^6/kg)</td>
<td>1.4 – 10.6</td>
<td>0.67</td>
<td>0.96</td>
<td>0.029</td>
</tr>
<tr>
<td>Recipient gender: M vs F</td>
<td>4.82</td>
<td>1.3</td>
<td>17.87</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Conclusions

- Factors associated with decreased overall survival in patients above the age of 60 undergoing HSCT using the 2 step approach included older age (>66) and lower KPS (70/80%) in a multivariate analysis.
- Factors associated with higher non-relapse mortality were older age (>66), lower KPS (70/80%), use of myeloablative conditioning, male gender and a lower CD34 dose.
- Haploidentical or matched related HSCT utilizing the 2 step approach are associated with acceptable outcomes in older pts.
- Age and lack of a MR donor should not be barriers to HSCT if patients are fit.
- Patients with lymphoma and controlled myeloid malignancies fared better in this older population.

References