Relationship between age and healthcare utilization in patients with myelodysplastic syndrome receiving supportive care

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Background

• Myelodysplastic syndrome (MDS) affects about 1 in 10,000 individuals in the US per year.
• Less than 10% of patients are under age 50 at diagnosis.1
• Some data suggest younger MDS patients have less-aggressive disease and that they may be more likely to receive supportive care rather than treatment with hypomethylating agents (HMAs) or thalidomide analogues (TAs).2,3
• Using a large claims database, we compared clinical and economic outcomes between patients <50 years old and those ≥50 years old who received supportive care.

Methods

• Descriptive cohort study of newly diagnosed MDS patients treated with supportive care.
• Data from de-identified and HIIRA-compliant medical and pharmacy claims from a large US insurer.
• Inclusion criteria: initial MDS claim (C9D-9 CM 238.72-238.75) between 2/1/2007 and 7/31/2008 and continuously enrolled for 6 months before and 12 months after the index MDS claim.
• Exclusion criteria: treatment with HMAs or TAs.
• Patients were stratified into two age groups: <50 and ≥50.
• Comorbidity variables and utilization/costs were calculated in the pre- and postindex period, respectively.

Results

• Of 1,133 patients, 221 (19.5%) were <50 and 912 (80.5%) were ≥50.
• Women made up 52% of the <50 group and 51% of the ≥50 group.
• Charlson comorbidity index was 1.2 in <50 group vs. 2.4 in ≥50 group (P = 0.011).
• 51% of those <50 had bone marrow biopsy vs. 45% of those ≥50 (P = 0.118).

Annual Healthcare Utilization and Charges in the Year After MDS Diagnosis, by Age <50 or ≥50 Years

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Age &lt;50</th>
<th>Age ≥50</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office visits, mean (SD)</td>
<td>22.2 (16.6)</td>
<td>17.5 (16.9)</td>
<td>24.2 (16.3)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Hospitalizations, no. (%)</td>
<td>655 (57.8)</td>
<td>150 (67.9)</td>
<td>505 (55.4)</td>
<td>0.004</td>
</tr>
<tr>
<td>0</td>
<td>225 (19.9)</td>
<td>37 (16.7)</td>
<td>188 (20.6)</td>
<td>0.118</td>
</tr>
<tr>
<td>1</td>
<td>116 (10.2)</td>
<td>12 (5.4)</td>
<td>104 (11.4)</td>
<td>0.118</td>
</tr>
<tr>
<td>2</td>
<td>137 (12.1)</td>
<td>22 (10.0)</td>
<td>115 (12.6)</td>
<td>0.118</td>
</tr>
<tr>
<td>3+</td>
<td>86,477</td>
<td>96,277</td>
<td>84,102</td>
<td>0.473</td>
</tr>
<tr>
<td>Non-Rx charges</td>
<td>81,113</td>
<td>91,435</td>
<td>78,612</td>
<td>0.443</td>
</tr>
<tr>
<td>Tx charges</td>
<td>5,363</td>
<td>4,841</td>
<td>5,490</td>
<td>0.311</td>
</tr>
</tbody>
</table>

Conclusions

• Although MDS is usually considered a disease of the elderly, 19.5% of patients in this commercial plan population were <50 years old.
• Most patients received supportive care only.
• Only half of patients were diagnosed using bone marrow biopsy, despite guidelines recommending its use.
• Hospitalizations were common and healthcare costs were high even in the <50 years population, which had a relatively low burden of comorbidities (as measured by Charlson index).
• There were no statistically significant differences in healthcare charges by age, although the small sample size limited our ability to detect differences.
• Anemia was more common in patients ≥50 than <50 years, as was the use of EPO and blood transfusion, and these differences were statistically significant.
• Further studies of the characteristics of patients with early-onset MDS are warranted.

Limitations

• Our study included patients with commercial insurance; different populations may have different outcomes.
• Healthcare claims are collected for billing purposes and lack detail on clinical factors (e.g., disease severity).
• Retrospective studies cannot establish causal relationships.

References

1. Germing Haematologica 2004
3. Cutler Blood 2004
4. NCCN Myelodysplastic Syndromes v2.2011

This research was funded by Eisai Inc.