Associations Between Treatment Restrictions, Patient-Reported Treatment Burden and Adherence to Tyrosine-Kinase Inhibitor Therapy Among Chronic Myeloid Leukemia Patients in the United States and Europe

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Abstract

Objectives: To evaluate the association between treatment restrictions on oral Tyrosine-Kinase Inhibitor (TKI) therapy and self-reported treatment difficulty and adherence among chronic myeloid leukemia (CML) patients treated with imatinib, dasatinib, or nilotinib. Methods: A cross-sectional study of U.S. and EU (United Kingdom, Spain, France, Italy, and Germany) CML patients ≥18 years old who were initiated on TKI therapy and were in chronic phase. Patients were ≥5 years from diagnosis, were currently on TKI treatment or on a drug holiday. Patients completed a Chronic Illness Panel aged ≥18 years from the US and EU who had a diagnosis of CML, were in chronic phase, and were currently on TKI treatment or on a drug holiday. Patients completed a MD Anderson Symptom Inventory (CML-MDASI©) and were emailed a survey about their treatment restrictions, regimen difficulty, and adherence. Results: A total of 303 patients completed the survey. The most common co-morbidity was hypertension, reported by 16.2% of the sample. The availability of the tyrosine-kinase inhibitor (TKI), imatinib, and later introduction of second generation TKIs, significantly reduced difficulty in taking medication as required (beta=0.28, p<0.001). Multivariate results: CML treatment restrictions were strongly associated with patients reporting difficulty with current oral CML treatment. Conclusions: Treatment restrictions were strongly associated with patients reporting difficulty with current oral CML treatment, and adherence was found to be significantly lower with increased difficulty.

Results

Demographic and Clinical Characteristics of CML Cohort

Table 1: Demographic and Clinical Characteristics of CML Cohort.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (n=303)</th>
<th>Nilotinib (n=49)</th>
<th>Dasatinib (n=38)</th>
<th>Imatinib (n=245)</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male: 158 (52.2%), Female: 145 (47.8%)</td>
<td>Male: 32 (65.3%), Female: 17 (34.7%)</td>
<td>Male: 22 (57.9%), Female: 16 (42.1%)</td>
<td>Male: 136 (55.2%), Female: 109 (44.8%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>55.5 (±13.6)</td>
<td>53.1 (±14.2)</td>
<td>55.0 (±13.3)</td>
<td>55.8 (±13.6)</td>
</tr>
<tr>
<td>Time since CML diagnosis (mean years, SD)</td>
<td>2.75 (±4.8)</td>
<td>2.61 (±4.5)</td>
<td>2.86 (±5.1)</td>
<td>2.72 (±4.9)</td>
</tr>
<tr>
<td>Time since CML diagnosis (n, %)</td>
<td>≥5 years: 227 (74.9%), &lt;5 years: 76 (25.1%)</td>
<td>≥5 years: 35 (71.4%), &lt;5 years: 14 (28.6%)</td>
<td>≥5 years: 179 (73.2%), &lt;5 years: 66 (26.8%)</td>
<td>≥5 years: 192 (78.2%), &lt;5 years: 53 (21.8%)</td>
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<tr>
<td>Treatment pattern</td>
<td>TKI Holiday: 107 (35.3%), TKI treatment: 196 (64.7%)</td>
<td>TKI Holiday: 18 (37.3%), TKI treatment: 31 (62.7%)</td>
<td>TKI Holiday: 88 (35.7%), TKI treatment: 157 (64.3%)</td>
<td>TKI Holiday: 89 (36.7%), TKI treatment: 157 (63.3%)</td>
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<tr>
<td>Allergies</td>
<td>None: 257 (84.9%), 1 allergy: 32 (10.6%), &gt;1 allergy: 4 (1.3%)</td>
<td>None: 31 (63.3%), 1 allergy: 8 (16.3%), &gt;1 allergy: 6 (12.2%)</td>
<td>None: 104 (42.1%), 1 allergy: 22 (8.9%), &gt;1 allergy: 10 (4.1%)</td>
<td>None: 122 (50.0%), 1 allergy: 27 (11.0%), &gt;1 allergy: 10 (4.1%)</td>
</tr>
<tr>
<td>Arthritis</td>
<td>No: 273 (90.2%), Yes: 30 (9.8%)</td>
<td>No: 37 (77.6%), Yes: 9 (18.8%)</td>
<td>No: 24 (9.9%), Yes: 11 (45.8%)</td>
<td>No: 146 (59.7%), Yes: 10 (4.1%)</td>
</tr>
</tbody>
</table>

Conclusions

- Treatment restrictions were strongly associated with patients reporting difficulty with current oral CML treatment.
- Adherence was found to be significantly lower with increased difficulty.

References


Disclosures

The Corresponding Author and Bristol-Myers Squibb, who conducted this study and analyzed data on behalf of Bristol-Myers Squibb.

Figure 1a. Components of Dietary Restrictions – Frequency of CML Treatment Restrictions reported

Figure 1b

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6