Economic Benefits of Adequate Molecular Monitoring in Patients with Chronic Myelogenous Leukemia

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OBJECTIVE

To evaluate the association between the number of molecular monitoring tests performed in patients with chronic myelogenous leukemia (CML) and medical costs over a one-year period.

METHODS AND PATIENTS

The Health Analytics MarketScan database, which includes claims data for members of over 130 employers, was used for this study.

RESULTS

After adjusting for potential confounding factors, compared to patients in the 0 test cohort, patients in the 1-2 test cohort had a lower risk of progression and longer progression-free survival (PFS) (ref: 0 tests, hazard ratio [HR] = 0.71, 95% confidence interval [CI] = 0.51-0.98, p = 0.039), and the 3-4 test cohort had an even lower risk of progression (HR = 0.51, 95% CI = 0.32-0.80, p = 0.005).

CONCLUSIONS

Patients with at least one CML diagnosis prior to or on the index date were included in the study. The average number of visits per patient is shown in Table 1. The results of the sensitivity analysis adjusting for the number of oncology OP visits during the study period that were not related to qPCR testing are shown in Table 2.

Table 1. Baseline Characteristics Stratified by Cohorts

<table>
<thead>
<tr>
<th>Cohort</th>
<th>N</th>
<th>Mean Age (SD)</th>
<th>Male (%)</th>
<th>0 tests</th>
<th>1-2 tests</th>
<th>3-4 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>1,205</td>
<td>57.8 (12.7)</td>
<td>54.6</td>
<td>25 (7.6)</td>
<td>49 (12.8)</td>
<td>57 (14.8)</td>
</tr>
</tbody>
</table>

REFERENCES

3. Coagulopathy definition of progression-related IP was based on the presence of potential progression-related events (IP progression-related costs was also analyzed. Progression-related costs included admissions (IP admissions) and associated all-cause IP costs to determine economic value.
4. Statistical Analyses: Patients were included in the study if they met the following criteria: Had at least two independent diagnoses (different dates) for CML (ICD-9 CM codes 205.1x). The total average cost at the baseline was statistically different between the three cohorts (p = 0.0008*). The adjusted medical service cost was $5,997 lower for the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort. The adjusted medical service cost was also statistically different between the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort. The adjusted medical service cost was also statistically different between the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort. The adjusted medical service cost was also statistically different between the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort.

The adjusted medical service cost was $12,663 (27,546) for the 0 test cohort, $9,250 (14,041) for the 3-4 test cohort, and $11,039 (16,583) for the 1-2 test cohort. The adjusted medical service cost was also statistically different between the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort.

Conclusions

Two independent qPCR tests per year had a lower risk of progression and longer progression-free survival (PFS) (ref: 0 tests, hazard ratio [HR] = 0.71, 95% confidence interval [CI] = 0.51-0.98, p = 0.039), and the 3-4 test cohort had an even lower risk of progression (HR = 0.51, 95% CI = 0.32-0.80, p = 0.005). The adjusted medical service cost was $5,997 lower for the 3-4 test cohort with $11,904 and by the 1-2 test cohort with $11,398 compared to the 0 test cohort.

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