The Diagnosis of Hepatorenal Syndrome (HRS): How Much Does Use of the 2015 Revised Consensus Recommendations Affect Earlier Treatment and Serum Creatinine (SCr) at Treatment Start?

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INTRODUCTION

Hepatorenal syndrome Type 1 (HRS-1) is a rapidly progressive, functional renal failure associated with high mortality, occurring in patients with cirrhosis and ascites.

Traditional diagnostic criteria for HRS-1 require a doubling of SCr level to >2.5 mg/dL in <2 weeks.

In 2015, the International Club of Ascites (ICA) revised the diagnostic criteria for HRS-1 and renamed the condition as acute kidney injury (AKI-1-HRS).

AKI-HRS is diagnosed when SCr doubles in <2 weeks without any set SCr threshold, while keeping all other diagnostic criteria the same.

The ICA suggested that the application of this revised definition would facilitate earlier, more effective vasoconstrictor treatment.

AIM

To estimate the impact of using the revised ICA AKI-HRS diagnostic criteria on the timing of HRS treatment by applying these criteria to patients with HRS-1 enrolled in a large clinical trial (REVERSE, NCT01143246).

RESULTS

Patients

141 of 106 patients included in the REVERSE trial had data available for this analysis.

Comparison of Criteria

Mean (SD) number of days between meeting revised ICA-KI-HRS criteria and traditional HRS-1 criteria was 3.8 (3.3) days.

Mean (SD) SCr level at diagnosis with the revised criteria was lower than that with the traditional criteria.

Patient data were analyzed to evaluate change in SCr level (decrease or no change vs. increase) during the interval between meeting the revised ICA AKI-HRS criteria and traditional HRS-1 criteria:

- 24/141 patients (17%) had a decrease or no change in SCr (mean decrease: 0.5 mg/dL) during a mean interval of 2.3 days.
- 117/141 (83%) had an increase in SCr (mean increase: 1.7 mg/dL) during a mean interval of 4.0 days.
- Most patients had a >0 to 2-mg/dL increase in SCr during the interval between meeting revised ICA AKI-HRS criteria and traditional HRS-1 diagnostic criteria (Figure 2).

Table. Fold Increase in SCr, AKI-HRS to HRS-1 Criteria

<table>
<thead>
<tr>
<th>Fold Increase</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1.0 to &lt;1.5-fold</td>
<td>53%</td>
</tr>
<tr>
<td>1.5 to 2.0-fold</td>
<td>22%</td>
</tr>
<tr>
<td>&gt;2.0-fold</td>
<td>25%</td>
</tr>
</tbody>
</table>

CONCLUSIONS

Applying revised ICA AKI-HRS diagnostic criteria rather than traditional HRS-1 diagnostic criteria would be estimated to result in:

- Earlier treatment by approximately 4 days.
- SCr level at initiation of treatment would be on average approximately 1 mg/dL lower.
- Almost half (47%) of patients would receive treatment before a further ≥1.5-fold increase in SCr.
- Since SCr at baseline prior to therapy is a predictor of HRS reversal and improved survival, using revised ICA AKI-HRS diagnostic criteria could lead to potentially better outcomes by facilitating earlier treatment.

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REFERENCES


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