Hypertension Management Improved for In-Center Nocturnal Dialysis Patients Compared to Conventional Dialysis Patients

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INTRODUCTION

Longer dialysis sessions have been shown to improve blood pressure (BP) control and decrease the need for anti-hypertension drugs.

To confirm this observation in a large dialysis population, we conducted a retrospective study comparing BP management and anti-hypertensive drug use in 418 conventional, in-center hemodialysis (ICHD) patients in the 6 months before and after their switch to in-center nocturnal hemodialysis (NHD).

METHODOLOGY

- Retrospective, longitudinal cohort (n=418)
- Prevalent ICHD patients converted to NHD
  - NHD consists of 6-8 hr/treatments, 3 times/wk
  - ICHD is defined as 3-4 hr/treatments, 3 times/wk
- The baseline period was defined as the last 6 months on ICHD prior to starting NHD
- The NHD period was defined as months 4 through 9 post-conversion allowing for a clinical stabilization period in the first 3 months of NHD (Figure 1)

RESULTS

Analysis of this large, longitudinal cohort of NHD patients confirmed that increased dialysis time on NHD reduced the need for anti-hypertensive therapy with equivalent blood pressure control.

These results suggest both clinical and economic benefits may be realized from NHD.

CONCLUSIONS

- The percent of patient utilizing anti-hypertensive drugs decreased 4.4% after conversion to NHD (Figure 2).
- Pre- and post-dialysis weights and pre- and post-dialysis systolic and diastolic blood pressure remained unchanged after conversion to NHD (Table 1).

KEY LEARNINGS

- Analysis of this large, longitudinal cohort of NHD patients confirmed that increased dialysis time on NHD reduced the need for anti-hypertensive therapy with equivalent blood pressure control.
- These results suggest both clinical and economic benefits may be realized from NHD.

Table 1. Post Dialysis Blood Pressures Before and After Conversion to NHD

<table>
<thead>
<tr>
<th></th>
<th>ICHD*</th>
<th>NHD*</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-diary diastolic BP</td>
<td>82.8 ± 0.6</td>
<td>81.8 ± 0.6</td>
<td>NS</td>
</tr>
<tr>
<td>Post-diary diastolic BP</td>
<td>74.5 ± 0.3</td>
<td>72.4 ± 0.3</td>
<td>NS</td>
</tr>
<tr>
<td>Pre-diary systolic BP</td>
<td>151.5 ± 1.1</td>
<td>150.7 ± 1.1</td>
<td>NS</td>
</tr>
<tr>
<td>Post-diary systolic BP</td>
<td>136.1 ± 0.5</td>
<td>133.2 ± 0.5</td>
<td>NS</td>
</tr>
</tbody>
</table>

*Mean ± SEM are shown

Figure 1. Methodology: Study Period

Figure 2. Anti-hypertensive Drug Utilization Before and After Conversion to NHD