Comparison of a New Positional Device to CPAP Therapy in Patients with Positional Obstructive Sleep Apnea

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Abstract
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Introduction: The ability of positional therapy to normalize the apnea-hypopnea index (AHI) (AHI < 5 events/hr) has not been adequately evaluated. We evaluated a new positional device (PD)(Zzzoma) to treat positional OSA and compared it to CPAP.

Methods: We identified 12 patients (10 males, 47±13 yrs, BMI=30±5) with positional OSA (AHI 14±5 events/hr) and compared it to CPAP.

Results:
- The PD and CPAP decreased the AHI, from 13±8 to 3±2 and 3±2 events/hr, respectively (p<0.001 for the PD).
- TST was unchanged with the PD and CPAP therapy, from 32±7 to 30±7 and 30±7 minutes (p=0.2) respectively.
- In patients with positional OSA, a new positional device: 1) is as effective as CPAP at decreasing the AHI; 2) normalizes the AHI to < 5 events/hr; 3) eliminates supine sleep during the night; and 4) is similar to CPAP in regards to effects on sleep quality and nocturnal oxygenation.

Conclusion:
Positional therapy is as effective as CPAP therapy at normalizing the AHI in patients with positional obstructive sleep apnea.

Methods
- We identified 22 patients (18 males, 46±13 yrs, BMI=30±5) with positional OSA (AHI 14±2 events/hr).
- Patients were then randomized to a night with CPAP (10±2 cm H2O) or the PD.
- A third study night consisted of the opposite therapy.

Baseline Characteristics

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<tr>
<td>Age (years)</td>
<td>46 ± 13</td>
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<tr>
<td>Sex</td>
<td>18 men, 4 women</td>
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<tr>
<td>BMI</td>
<td>30 ± 5</td>
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<td>Baseline AHI (events/hr)</td>
<td>14 ± 7</td>
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<td>Baseline Supine AHI (events/hr)</td>
<td>36 ± 22</td>
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<td>Baseline Non-supine AHI (events/hr)</td>
<td>3 ± 2</td>
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Sleep efficiency was unchanged from baseline with the PD and CPAP therapy from 86±13 to 85±14 and 81±13% (p=0.5), respectively.

References