Effect of Nasal Continuous Positive Airway Pressure in Men on Global Left Ventricular Myocardial Performance in Patients With Obstructive Sleep Apnea Syndrome

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Figure 1. Measurement of the Tei-index.

The Tei-index, \((ICT + IRT)/ET\), is calculated from \((a-b)/b\), where \(a\) is interval between cessation and onset of mitral inflow, and \(b\) is interval from onset to cessation of left ventricular (LV) outflow. Isovolumic relaxation time (IRT) was measured as \((c-d)\) by subtracting interval between R wave on electrocardiograms (ECG) and cessation of LV outflow \((d)\), and from interval between the R wave and onset of mitral flow \((c)\). Isovolumic contraction time (ICT) was obtained by subtracting IRT from \((a-b)\). ET, ejection time.

Figure 2. Comparison of prevalence of global left ventricular dysfunction (GLVD) and of brain natriuretic peptide (BNP) levels between patients with obstructive sleep apnea syndrome (OSAS) and controls.

GLVD and High BNP are defined as Tei-index \(\geq 0.50\) and \(\geq 20\) pg/ml, respectively.

Figure 3. Correlation between Tei-index and apnea-hypopnea index (AHI) in patients with obstructive sleep apnea syndrome \((r = 0.447, P < 0.05)\).
Figure 1

Tei index = (ICT + IRT)/ET = (a - b)/b

Mitral inflow

LV outflow

ICT | ET | IRT

ECG
Figure 2

[p < 0.05]

<table>
<thead>
<tr>
<th></th>
<th>Subjects (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLVD OSAS</td>
<td>19</td>
</tr>
<tr>
<td>GLVD Control</td>
<td>0</td>
</tr>
<tr>
<td>High-BNP OSAS</td>
<td>37</td>
</tr>
<tr>
<td>High-BNP Control</td>
<td>9</td>
</tr>
</tbody>
</table>
Figure 3

$r = 0.447, p<0.05$