Predicting Response to Low Intensity-Extracorporeal Shockwave Therapy for ED

Paul R Gittens, MD
Centers for Sexual Medicine

Daniel S Roberson, MD
Drexel University College of Medicine

Philadelphia, PA
Disclosures

Paul Gittens MD, FACS is the director of Corewave Therapy™
Daniel Roberson MD has no conflicts of interest to make relevant to this presentation
Introduction

• Adapted from nephrolithiasis treatment devices
• First applied to ED in 2010 by Vardi
• Proposed mechanism of action: intravascular stress from acoustic waves activates endothelial cells, perivascular stem cells, and Schwann cells
  • eNOS
  • Angiogenesis
  • Nerve growth
The Study

• Who should we be targeting for therapy?
• Retrospective analysis of 64 ED patients
• 6 treatments over 3 weeks
• IIEF questionnaire administered before and 4-6 weeks after treatment
• Primary outcome - change in SHIM (IIEF-5) score with treatment
• The study was not designed evaluate long term efficacy of Li-ESWT
## Results

- Average age: 48.6 years old
- Median duration of ED: 60 months prior to treatment
- Overall increase in median SHIM score: 6 (from 15 to 21)
- Binary variable subgroup analyses
  - DM
  - Hypogonadism
  - HTN
  - Morning erections

### Change in SHIM and IIEF Scores After Treatment Based on Patient Characteristics

<table>
<thead>
<tr>
<th>Pt. Characteristics</th>
<th>Absence of Condition</th>
<th>Presence of Condition</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Median (IQR)</td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>IIEF</td>
<td>SHIM</td>
<td>IIEF</td>
</tr>
<tr>
<td>DM</td>
<td>5</td>
<td>16 (4,20)</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2 (0,9)</td>
<td>2</td>
</tr>
<tr>
<td>Hypogonadism</td>
<td>5</td>
<td>14 (4,20)</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4 (0.5,7.5)</td>
<td>2</td>
</tr>
<tr>
<td>HTN</td>
<td>4</td>
<td>10 (4,20)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>14 (1,20)</td>
<td>5</td>
</tr>
<tr>
<td>Nocturnal/Morning Erections</td>
<td>3</td>
<td>10 (1,20)</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>4 (4,10)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 (2,10)</td>
<td>4</td>
</tr>
</tbody>
</table>
Results

- Continuous variable subgroup analyses
  - Age
  - Duration of ED prior to treatment
- Change in SHIM with treatment was greater in patients who had a shorter duration of ED prior to treatment (p<.05)
Limitations

• Retrospective
• Lack of a control group
• Small sample size
• Lack of long term follow up
Conclusion

• Age was not a significant indicator of inferior outcomes
• Shorter duration of ED significantly predicted a greater response to therapy
• Patients without DM and hypogonadism had greater increases in SHIM score with treatment as compared to their counterparts with those conditions
• Presence of HTN and lack of morning erections did not significantly impact outcomes
• This study serves to provide a direction in which future studies can be aimed
• Further data collected in a randomized, controlled setting is needed


Thank you for your attention

• Questions?