Characteristics of Men with Peyronie’s Disease and Collagenase Clostridium Histolyticum Treatment Failure

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Introduction

• A subset of Peyronie’s disease (PD) patients receiving Collagenase Clostridium Histolyticum (CCH) experience persistent bother and some require surgery.
• We characterize patients experiencing persistent bother post-CCH and identify associations and predictors of surgical intervention and outcomes.

Methods

• We retrospectively identified PD patients from 10/2014-10/2019 and identified those presenting with persistent bother after CCH treatment by other urologists.
• Intracavernosal injection and penile Doppler ultrasonography (PDUS) were performed and subsequent interventions/outcomes were recorded.
• Baseline characteristics → Student t-test and chi-square tests.
• Predictors of surgical intervention and complications were assessed using multivariable logistic regression.
• Primary outcome: surgery post-CCH
• Secondary outcomes: worsened erectile function, sensory deficits and penile length change.

Results

• In total, 67/573 (11.7%) PD patients had undergone prior CCH with median 6 injections (Range: 2-24).
• Mean post-CCH Peyronie’s Disease Questionnaire Bother score was 10.1 (SD 3.1) and total International Index of Erectile Function-5 was 15.3 (SD 8.7).
• Mean composite curvature (MCC) was 69.0° (SD 33.8) measured after injection. 65.7% (44/67) patients had MCC≥60°.
• 77.6% (52/67) patients had indentation deformity, 38.8% (26/67) had hinge effect (buckling of erect penis with axial pressure), 38.8% (26/67) had calcification.
• 49.3% (33/67) went on to surgery, with 60.1% (20/33) undergoing partial plaque excision and grafting (PEG) with/without tunica albuginea plication (TAP), 18.2% (6/33) TAP alone and 21.2% (7/33) penile prosthesis with plaque incision and grafting (IPP + PIG). PEG and TAP patients used post-op penile traction therapy.
• Surgical patients had greater mean curvature (82.6° vs 55.4°, p=0.001) and were more likely to have hinge (54.5% vs 20.6%, p=0.005).
• On multivariable analysis, MCC≥60° predicted patient decision for surgery (OR 2.99, p<0.01, 95%CI:1.62-4.35).
• There were no associations between surgical complications and number of injections or CCH-associated adverse events.
• Only 1/20 (5.0%) PEG pt had ED non-responsive to oral medications.

<table>
<thead>
<tr>
<th></th>
<th>TAP only</th>
<th>PEG +/- TAP</th>
<th>IPP + PIG</th>
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</thead>
<tbody>
<tr>
<td>n</td>
<td>6</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Median follow-up (months; IQR)</td>
<td>5(28.1)</td>
<td>5.8(12.3)</td>
<td>14(17.5)</td>
</tr>
<tr>
<td>Postoperative Traction Therapy, n (%)</td>
<td>6(100)</td>
<td>20(100)</td>
<td>N/A</td>
</tr>
<tr>
<td>Transient Sensory Change, n (%)</td>
<td>0</td>
<td>5(20)</td>
<td>2(28.6)</td>
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<tr>
<td>Persistent Sensory Change, n (%)</td>
<td>0</td>
<td>2(10)</td>
<td>0</td>
</tr>
<tr>
<td>Worsened Erectile Function, n (%)</td>
<td>0</td>
<td>3(15)</td>
<td>N/A</td>
</tr>
<tr>
<td>ED Not Controlled by PDE5i, n (%)</td>
<td>0</td>
<td>1(5)</td>
<td>N/A</td>
</tr>
<tr>
<td>Length Change (cm), Mean (SD)</td>
<td>+0.25(0.5)</td>
<td>+0.4(1.1)</td>
<td>+0.6(1.6)</td>
</tr>
</tbody>
</table>

Conclusion

• Patients with persistent bother post-CCH had high rates of indentation, narrowing, plaque calcifications, and MCC>60° at completion of CCH.
• Surgical intervention is more common in men with hinge, and is safe and feasible in these patients, with low rates of complications.
• These findings suggest possible negative prognostic factors for CCH treatment which merit further investigation.

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