Effect of Alcohol Consumption on Patient-Reported Outcomes in Hip Arthroscopy: A Matched-Pair Controlled Study with Minimum 2-Year Follow-Up

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‘I (and/or my coauthors) have something to disclose’ along with a referral for more detailed disclosure information on the EOA App or via the Disclosure Program on the AAOS website.
Disclosures

- American Orthopedic Foundation\textsuperscript{a}, American Hip Foundation\textsuperscript{a}, AANA Learning Center Committee\textsuperscript{a}, Adventist Hinsdale Hospital\textsuperscript{c}, Hinsdale Hospital Foundation\textsuperscript{a}, Hinsdale Orthopedic Associates\textsuperscript{e}, Hinsdale Orthopedic Imaging\textsuperscript{e}, American Hip Institute\textsuperscript{e}, Arthroscopy Journal\textsuperscript{a}, SCD#3\textsuperscript{e}, North Shore Surgical Suites\textsuperscript{e}, Munster Specialty Surgery Center\textsuperscript{e}, Amplitude\textsuperscript{c}, Arthrex\textsuperscript{b,c,d}, DJO Global\textsuperscript{d}, Medacta\textsuperscript{b,c}, Orthomerica\textsuperscript{d}, Stryker\textsuperscript{b,c}

- \textsuperscript{a} – boardmember; \textsuperscript{b} – research support; \textsuperscript{c} – consulting; \textsuperscript{d} – royalty; \textsuperscript{e} – ownership interest
Purpose / Hypothesis

To evaluate whether alcohol status of patients undergoing hip arthroscopy affects clinical and patient reported outcome (PRO) scores.

Patient who drink heavy amounts of alcohol will have lower overall PRO scores than those who abstain at latest follow-up.
Methods

• Registry data Feb 2008 - July 2015

• Heavy Drinkers pair matched 1:1 to non-drinkers
  • Age (± 5yrs)
  • Sex
  • BMI (± 5kg/m²)
  • Capsular Rx (repair vs release)
  • Outerbridge grade (0,1 vs 2, 3, 4)

• Exclusion criteria:
  • Revision surgeries
  • Tonnis Grade >1
  • Legg-Calves-Perthes, avascular necrosis
  • Prior surgical interventions

• Pre- and post-op:
  • mHHS
  • NAHS
  • HOS-SSS
  • iHOT-12
  • VAS
  • Satisfaction 0-10
Results

Table 1: Pair Matching Demographic Results

<table>
<thead>
<tr>
<th></th>
<th>Heavy EtOH</th>
<th>Abstinent</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hips included in study</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left:Right</td>
<td>18 (42.9%):24 (57.1%)</td>
<td>22 (52.4%):20 (47.6%)</td>
<td>0.3822</td>
</tr>
<tr>
<td>Sex (Male:Female)</td>
<td>15 (35.7%):27 (64.3%)</td>
<td>15 (35.7%):27 (64.3%)</td>
<td>&gt;0.999</td>
</tr>
<tr>
<td>Age at surgery (years, mean, SD, range)</td>
<td>43.0 ± 12.2 (25.2 – 71.9)</td>
<td>42.9 ± 11.5 (23.7 – 65.1)</td>
<td>0.9628</td>
</tr>
<tr>
<td>BMI (kg/m^2, mean, SD, range)</td>
<td>27.6 ± 5.2 (18.3 – 43.6)</td>
<td>26.8 ± 4.8 (19.3 – 42.5)</td>
<td>0.4540</td>
</tr>
<tr>
<td>Follow-up time (months, mean, SD, range)</td>
<td>54.9 ± 21.3 (24.0 – 108.0)</td>
<td>52.3 ± 23.9 (24.0 – 92.8)</td>
<td>0.8270</td>
</tr>
</tbody>
</table>

Smoking

<table>
<thead>
<tr>
<th></th>
<th>Heavy EtOH</th>
<th>Abstinent</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>28 (66.7%)</td>
<td>31 (73.8%)</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>4 (9.5%)</td>
<td>8 (19.0%)</td>
<td></td>
</tr>
<tr>
<td>Former</td>
<td>7 (16.7%)</td>
<td>3 (7.1%)</td>
<td></td>
</tr>
<tr>
<td>Passive Exposure</td>
<td>3 (7.1%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
</tbody>
</table>

2 Groups created
- Heavy Drinkers; N = 42
- Non-Drinkers; N = 42

Both groups well matched:
- Demographics
- Pre-operative
  - physical exam
  - X-rays
- Intra-op procedures

Statistical significance set to \( p = 0.05 \)
Results

- 2 Groups created
  - Heavy Drinkers; N = 42
  - Non-Drinkers; N = 42

**Heavy drinkers**: diminished improvement in HOS-SSS scores:

20.4 points vs 41.6 points of the non-drinking group (P = 0.0169)

Statistical significance set to $p = 0.05$
Results

- 2 Groups created
  - Heavy Drinkers; N = 42
  - Non-Drinkers; N = 42

![Graph showing Pre-Op to Latest Pain Ratings]

Statistical significance set to $p = 0.05$
Results

- 2 Groups created
  - Heavy Drinkers; N = 42
  - Non-Drinkers; N = 42

<table>
<thead>
<tr>
<th>MCID, PASS</th>
<th>Heavy EtOH (n, %)</th>
<th>Abstinent (n, %)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>mHHS</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MCID [8]</td>
<td>26 (74.3%)</td>
<td>30 (83.3%)</td>
<td>0.1868</td>
</tr>
<tr>
<td>PASS [74]</td>
<td>20 (47.6%)</td>
<td>29 (69.0%)</td>
<td>0.0464</td>
</tr>
</tbody>
</table>

• Odds of achieving PASS for mHHS was **2.5 times higher** for patients who never consumed alcohol compared to those who drank heavily

• The rate of conversion to THA and the rate of revision arthroscopy were not statistically different between groups
Conclusions

- **Heavy drinkers**
  - diminished improvement in HOS-SSS / VAS pain scores at latest follow-up
  - Lower post-op scores:
    - iHOT-12
    - SF-12 and VR-12 (mental)

- The odds of achieving PASS for mHHS was **2.5 times higher** for patients who never consumed alcohol compared to those who drank heavily

*Hip arthroscopy can still yield clinical benefit in drinkers*

*Drinkers may ultimately achieve an inferior functional status and should be counseled on drinking cessation in order to optimize their results*
References


