Introduction:

- Ambulatory meniscectomies represent one of the most commonly performed orthopedic operations in the US.
- Can be performed under various anesthesia types.
- Little is known about the utilization and related characteristics of these various approaches.

Objective:

- Determine anesthesia practice patterns representative of a large number of participating institutions.

Materials and Methods:

- Data from the Anesthesia Quality Institute (AQI) 2010–2013 were utilized.
- Clinical Classifications Software (CCS) can be performed under various anesthesia types.
- Groups underwent the procedure under general anesthesia (GA), neuraxial anesthesia (NA), and regional (RA) as the primary anesthetic.
- Patient, provider, and health care system-related characteristics were compared among groups.
- Chi-square and ANOVA tests were used to determine differences between groups and a p-value of 0.05 was defined as significant.
- Statistical analyses conducted in SAS 9.3.

Results:

- Approximately 7 million records were identified from 2010–2013 in the AQI database.
- 88,639 meniscectomies were identified that contained complete information on anesthesia type.
- Primary type of anesthesia was listed as GA in 95.2%, as NA in 1.6%, and RA in 3.2% of cases.
- Patients in the GA group were younger and had lower ASA class scores than those in the NA and RA groups (51.6 vs. 56.7 vs. 53.9 years, P<0.001; ASA class ≥ 3, 16.0% vs. 35.9% vs. 24.7%, P<0.001).
- Average anesthesia times were longer for GA and NA than for RA (63 vs. 66 vs. 48 minutes, P<0.001).
- A board certified anesthesiologist was present in 66.8% of GA, 91.2% of NA and 79.4% of RA cases.
- While the use of GA was fairly evenly distributed between institution types, the use of NA and RA was proportionately highest in medium community hospitals and freestanding facilities, respectively.

Discussion:

- The number of meniscectomies identified in the AQI data were performed under GA.
- Variables potentially involved in the choice of anesthetic technique by providers included:
  - ASA status, length of procedure, provider type, and the board certification status of the anesthesiologists.
- Older patients with a higher ASA status tended to receive NA, while younger patients with a lower ASA score received GA.
- Procedures where NA was provided took longer than those with GA or RA, on average.
- Board certification of the attending physician differed among all three anesthesia types.

Table 1: General Demographics Statistics by Anesthesia Type, 2010 – 2013

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>GENERAL</th>
<th>NEURAXIAL</th>
<th>REGIONAL</th>
<th>TOTAL</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unweighted N</td>
<td>64,394</td>
<td>1,428</td>
<td>2,007</td>
<td>88,639</td>
<td></td>
</tr>
<tr>
<td>Average Age</td>
<td>51.4 (31.5)</td>
<td>51.7</td>
<td>51.7</td>
<td>51.7</td>
<td>51.7 (51.7, 51.9)</td>
</tr>
<tr>
<td>Gender</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>45,737 (71.8)</td>
<td>771 (53.3)</td>
<td>1,332 (66.5)</td>
<td>48,850 (55.1)</td>
<td><strong>&lt;0.0001</strong></td>
</tr>
<tr>
<td>Female</td>
<td>18,658 (28.2)</td>
<td>657 (46.7)</td>
<td>675 (33.5)</td>
<td>20,488 (44.9)</td>
<td><strong>&lt;0.0001</strong></td>
</tr>
<tr>
<td>Unknown</td>
<td>50 (0.8)</td>
<td>3 (0.2)</td>
<td>9 (0.4)</td>
<td>62 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Average ASA Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (95% CI)</td>
<td>1.9 (1.9, 1.9)</td>
<td>2.0 (2.0, 2.0)</td>
<td>2.0 (2.0, 2.0)</td>
<td>1.9 (1.8, 1.9)</td>
<td></td>
</tr>
<tr>
<td>ASA Class: Mean (95% CI)</td>
<td>3 or Higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Anesthesia Times</td>
<td>13,461 (16.0)</td>
<td>516 (36.9)</td>
<td>694 (24.7)</td>
<td>14,091 (16.6)</td>
<td></td>
</tr>
<tr>
<td>Minutes: Mean (95% CI)</td>
<td>65.6 (62.4)</td>
<td>65.6 (62.4)</td>
<td>65.6 (62.4)</td>
<td>65.6 (62.4)</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions:

- NA and PNB are more frequently considered among older, sicker patients; reasons for this remain speculative.
- Data can be used to allow institutions to compare their own practice patterns against this cohort.

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