TOTAL SHOULDER ARTHROPLASTY EXPEDITED PATHWAY: SAME DAY DISCHARGE FEASIBILITY STUDY

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Introduction

- Total Shoulder Arthroplasty (TSA) hospital stay 2-3 days
- Medical reasons: pain, nausea, surgical complications
- Non-medical reasons: discharge planning, allied health professional visits, routine hospital practices
- Subset of patients without severe medical comorbidities can have shorter length of stay
- Devising and test an Expedited Pathway for discharge of patients within 24h of admission (POD#0)
- Outpatient Regional catheter program exists
- Feasibility of early discharge for TSA studied but not used routinely.

Methods

- REB approval
- 10 patients recruited (7 completed study protocol by now)

Standard Practice:

- stop CSIB morning of discharge
- AHP, X-ray, on POD#1
- discharge POD #1-3

Expedited Pathway:

- Careful Patient Selection
- ERAS Protocol for Optimized Perioperative Process (including home Continuous Interscalene Block (CSIB) for pain)
- Optimized Multidisciplinary Process

Primary outcomes:

- time to Discharge Criteria completion
- Pain on POD#1
- Opioid Consumption in 24h
- Satisfaction score

Discharge Criteria:

- Pain ≤ 6/10
- Sat O2 ≥ 92% on room air, RR 12-20
- Control of PONV
- Physiotherapy (PT) assessment
- post-op X-rays

Results

Demographics

- 7 patients have completed study
- One patient had significant asthma (not noted till post inclusion)
- Analysis: intention-to-treat

Table 2. Demographic and Surgical Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>age (y)</td>
<td>61 (9)</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>27 (2)</td>
</tr>
<tr>
<td>time from admission to PACU in (h)</td>
<td>4 h 44 min (48 min)</td>
</tr>
<tr>
<td>gender (M/F)</td>
<td>3/4</td>
</tr>
<tr>
<td>local residency (Y/N)</td>
<td>3/4</td>
</tr>
<tr>
<td>surgery start time (8 am/11 am / 1 pm)</td>
<td>4/1/2</td>
</tr>
<tr>
<td>anatomic / reverse TSA</td>
<td>6/1</td>
</tr>
<tr>
<td>Comorbidities (Y/N)</td>
<td></td>
</tr>
<tr>
<td>asthma</td>
<td>1/6</td>
</tr>
<tr>
<td>congenital heart disease</td>
<td>1/6</td>
</tr>
<tr>
<td>ex-smoker</td>
<td>1/6</td>
</tr>
<tr>
<td>Hypertension</td>
<td>3/4</td>
</tr>
<tr>
<td>primary biliary cirrhosis</td>
<td>1/6</td>
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Table 3. Outcomes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain on POD#1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1.4</td>
<td>1.8</td>
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<tr>
<td>Satisfaction</td>
<td>100</td>
<td>85</td>
<td>85</td>
<td>N/A</td>
<td>95</td>
<td>100</td>
<td>94</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Opioid Consumption*</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>25</td>
<td>70</td>
<td>10</td>
<td>70</td>
<td>29</td>
<td>28</td>
</tr>
</tbody>
</table>

*oral oxycodone equivalents (mg)

Discussion

- We identified and addressed the logistical barriers to discharge
- Bottlenecks to discharge:
  - Delayed OT assessment (can be done as outpatient)
  - Delayed PT assessment (improved with 8 am surgery)
  - X-rays (fixed by interdisciplinarian communication)
- We achieved our goal of patient readiness to discharge by 24h from PACU time in 6 out of 7 patients.
- Future:
  - Discharge with a referral to CCAC
  - CCAC support: beneficial for safety and follow-up
  - OT assessment: preop &/or home
  - 8 AM surgery: shortest time to discharge readiness

Conclusions

- Creation and testing of a screening tool to identify same day TSA candidates
- Use of our Expedited Pathway including CSIB for analgesia: controls factors that increase post-operative length of stay
- TSA can potentially be performed as an outpatient procedure in a significant subset of patients
- We need rigorous pre-screening of patients to identify any conditions that may delay discharge
- Clear communication with the perioperative team regarding patients in the Expedited Pathway

References