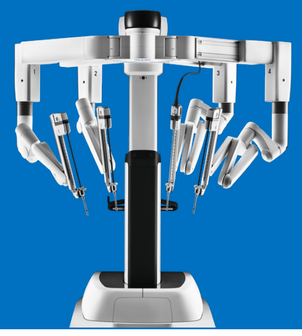

Peri-operative analgesia for Robot Assisted Laparoscopic Prostatectomy

Comparison of spinal plus general anaesthesia vs usual practice

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Introduction

- Abdominal and penile pain, catheter-associated discomfort and bladder spasm are common following Robotic Assisted Laparoscopic Prostatectomy (RALP).
- Bladder spasm is difficult to differentiate from abdominal pain and hard to manage in Recovery, despite opioid and anti-muscarinic use. On one occasion a rescue spinal anaesthetic was required in the recovery room.
- There is evidence to suggest that opioids increase cancer recurrence rates, therefore minimising opioid use is increasingly advised.
- Intra-thecal morphine has been demonstrated in one small RCT (n=30) to reduce pain and opioid usage at 24 hours.

Aims

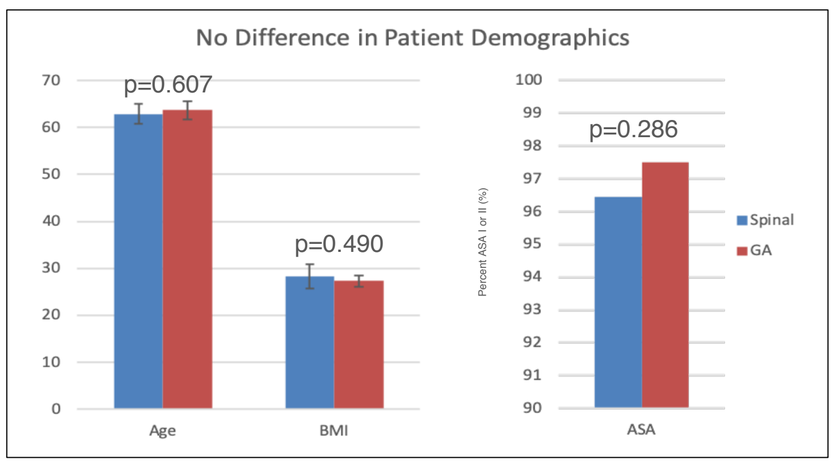
- To ascertain current anaesthetic practice for RALP
- To assess the benefits of spinal anaesthesia in addition to general anaesthesia including incidence of bladder spasm, and objective differences in terms of pain, analgesia consumption and operation and recovery duration

Methods

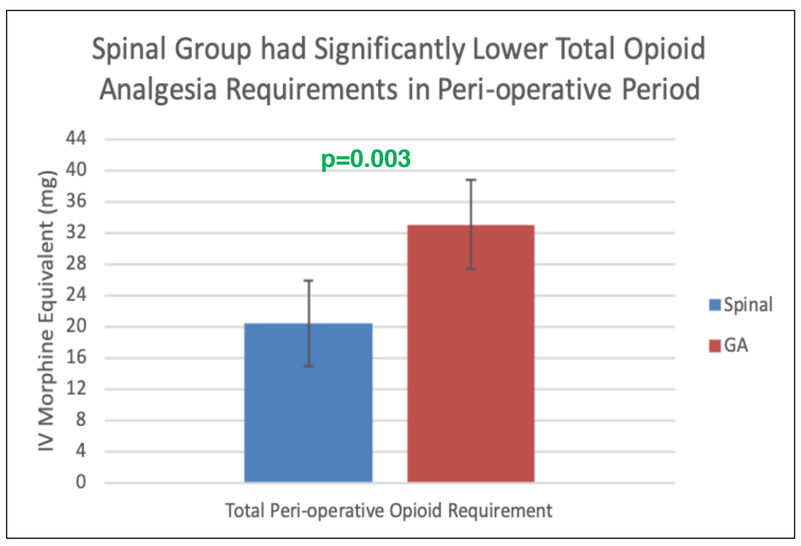
- 6 month data collection period
- Inclusion criteria; all elective RALP during the period.
- Data collection form provided in the anaesthetic room, with information collected on conduct of anaesthesia and completed in the recovery room.
- Data collected on: duration of anaesthesia; time in recovery; pain, nausea and sedation scores; incidence and severity of catheter-related discomfort and given treatments
- Notes including drug charts reviewed following discharge and 24 hour analgesic and anti-emetic consumption analysed
- Data analysed using Microsoft Excel (t-test, standard deviation, 95% confidence interval).

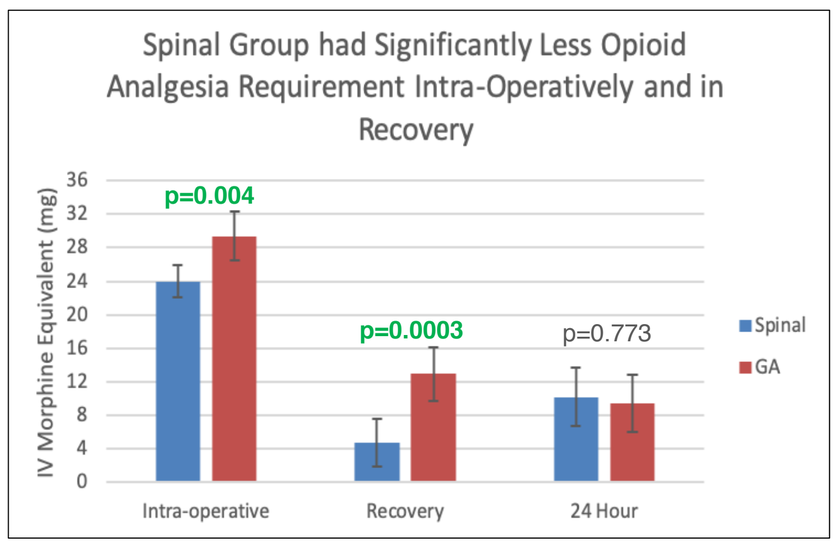
Results

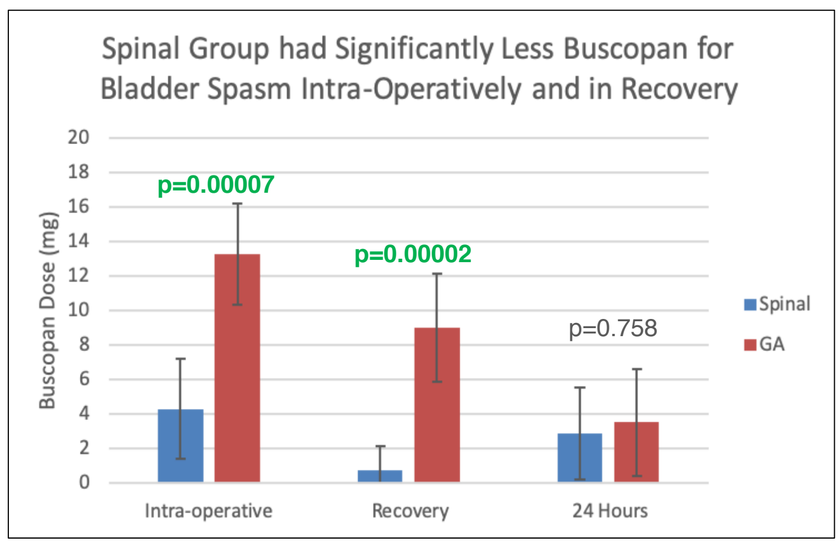
- 93 cases performed for 6 month period starting 3rd December
- 26 (8 spinal group vs 18) had missing data and excluded
- 68 cases included in analysis; 28 received spinal vs 40 GA only
- There were 2 failed spinals included in the GA only group



- **Patient Demographics were similar between both groups**
- Spinal Age 62.89 (±2.07 CI) vs 63.65 (±1.99 CI), p=0.607
- Spinal BMI 28.32 (±2.34 CI) vs 27.31 (±1.23), p=490
- Spinal ASA I or II 96.43% vs 97.5%, p=0.286

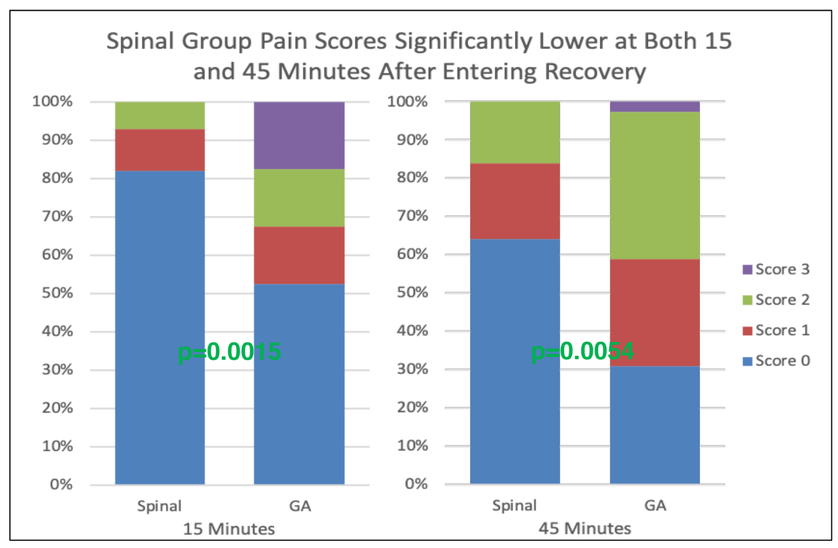






- **Spinal patients had a statistically significant reduction of intra-operative and recovery opioid based analgesia**
- (23.95mg±1.92 vs 29.39mg±2.95, p=0.004; 4.73mg±2.81 vs 12.95mg±3.19 CI, p=0.0003)
- Doses of all opioids adjusted to IV morphine equivalent

- **Spinal patients had a statistically significant reduction of intra-operative and recovery opioid based analgesia buscopan**
- (4.29mg±2.93 vs 13.25±2.93, p=0.0001; 0.71mg ±1.40 vs 9.00mg±3.12, p=0.00001)



- Secondary findings included:
- **Spinal anaesthesia does not alter surgery time** (189±16 vs 185±12, p=0.667)
- **Spinal patients spent less time in recovery** (117±29 vs 168±28, p=0.019)

- **Spinal patients had a statistically significant reduction of subjective Pain scores in recovery at 15 and 45 minutes**

Discussion

- Clear benefits of combined spinal and general anaesthesia for incidence of bladder spasm, and opioid consumption in initial perioperative period.
- No detrimental effect to theatre time, with reduced recovery stay having potential benefits for operating department efficiency / flow.
- Anecdotal evidence from Recovery Staff in particular of improved patient comfort which has already led to a change in practice and adoption by several Anaesthetic Consultants
- No ability to assess long-term benefit, including recurrence rates
- Large amount of missing data hampered full analysis
- Not an RCT and therefore cannot exclude bias

Conclusions

- Combined spinal and general for RALP improves patient pain scores and reduces analgesia requirements.
- Patients spent less time in recovery and needed fewer nursing interventions, potentially improving patient flow through this limited resource.
- Spinal anaesthesia should be offered to all patients undergoing RALP.

Development

- Present findings to Anaesthetic quality improvement meeting and submit abstract to national meetings.
- Consider an RCT to investigate whether additional intrathecal opioid further improves the patient experience.

References

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2. Bae, J, Kim, HC, and Hong, DM. (2017) Intrathecal morphine for postoperative pain control following robot-assisted prostatectomy: a prospective randomized trial. *J Anesth*. 31: 565–571. PMID: 28477228