Evaluation of an ERAS Pain Management Protocol in a Tertiary Hospital in Metro Manila for Patients who underwent Sigmoidectomy – A Retrospective Descriptive Study

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BACKGROUND:

ERAS (Enhanced Recovery After Surgery) Program

- ERAS programs are multimodal perioperative care pathways that aim to achieve early recovery after surgical procedures by maintaining preoperative organ function and reducing the profound stress response following surgery. These programs have been shown to reduce post-operative morbidities which in turn translate to shorter length of stay at the hospital and reduced costs for patients.
- One key element is multimodal and preemptive analgesia with minimal side effects to achieve important ERAS milestones such as early mobilization and oral feeding.

The Medical City ERAS Program

- Developed in 2015 by a multi-disciplinary team using evidence-based practices to improve perioperative management of our patients.
- Currently it is implemented for colorectal, orthopedic, obstetric and gynecologic surgeries.
- Anesthesia-wise these practices can be broken down into three parts: pre-operative, intra-operative and post-operative.
- Pre-operatively: Follow the latest ASA guidelines for fasting (hold solids for six hours and clear liquids for two hours prior to procedure), drink apple juice (200mL if they are diabetic and 400mL if they are not) two hours prior to procedure, and take one dose of Pregabalin (either 50mg or 75mg capsule, depending on their weight) together with their last intake of fluids.
- Intraoperatively: Total intravenous anesthesia with Propofol as maintenance, Dexamethasone 5mg IV and Palonosetron 75mcg IV as PONV prophylaxis, using the Conox machine to measure the depth of anesthesia, as well as the stroke volume variation (SVV) and pulse pressure variation (PPV) for goal directed fluid management. For pain medications, patients are given Paracetamol 1g IV (Ifimol), Dexketoprofen 50mg IV as well as top-ups of Dexmedetomidine 10-20 mcg IV and Morphine 2-3mg (maximum 10mg IV)
- Post-operatively: Shift to oral pain medications such as Tramadol 75mg + Dexketoprofen 25mg per tablet or Paracetamol 375mg + Tramadol 37.5mg per tablet then only have Tramadol 50mg IV or Oxycodone 1-2mg IV for rescue pain management.

DISCUSSION:

- The aim of this study was to evaluate an existing ERAS pain management protocol wherein only oral pain medications were given for pre-emptive analgesia and postoperative pain management with a goal of minimizing opioid
- 62 ERAS-enrolled patients underwent sigmoidectomy, 34 were done open and 28 were done laparoscopically.
- The primary outcomes evaluated were postoperative pain rating and administration of rescue pain medication. The secondary outcomes evaluated were length of stay, hours of mobilization and time to first oral feeding.

This study found that there is a decreasing trend in numeric pain rating scale from postoperative days 0 to 2, the average length of stay was 4 days (M = 4.56; SD = 2.78), the ambulation time on day 0 was 4 hours (M = 4.14; SD 1.76) and time to first oral feeding was 2 days (M = 2.23; SD = 11.5).

	Day 0	Day 1	Day 2
All	3.35	3.05	2.2
Open	3.6 (SD=1.7)	3.2 (SD=1.5)	2.5 (SD=1.5)
Laparoscopic	2.9 (SD=1.5)	2.8 (SD=1.7)	1.8 (SD=1.4)

LEARNING POINT:

In an ERAS setting for patients who underwent sigmoidectomy, the administration of an opioid minimizing oral pain regimen effectively managed post-operative pain. This strategy also positively affects length of stay, time to mobilization and oral feeding.

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