

Enhanced Recovery after Surgery (ERAS) Pathway

Laparoscopic and Open Distal Pancreatectomy and Whipple procedures

DAY of SURGERY

Carbohydrate drink:

- Given to patient by preop screening to drink 1 hour before scheduled arrival time.

DAY of SURGERY, PREOP HOLDING

1. Preop nursing staff will
 - a. IDENTIFY ERAS patient and initiate protocol
 - b. DOCUMENT if CHO drink was taken and document time
2. Multimodal analgesia and anti-emetics to be given
 - a. Tylenol 975 mg PO
 - b. Gabapentin 600 mg PO
 - c. Naproxen 500 mg PO
 - d. Scopolamine patch for high risk PONV patients (if < 65 years)
 - e. Add Emend for patients with history of failed scopolamine patch
3. Thoracic epidural - T7-10

INTRAOPERATIVE

1. FOLEY CATHETER INSERTION
2. ARTERIAL LINE AND LARGE BORE PIV X2
3. ADMINISTER VT PROPHYLAXIS - 5000U heparin SC can be given immediately after epidural placement
4. MULTIMODAL ANALGESIA

(A) Thoracic epidural in-situ

- Run infusion of bupivacaine 0.0625%/hydromorphone 10mcg/ml (epidural) throughout case (3-6 ml/hour) as tolerated
- GOAL IS TO AVOID IV OPIOIDS. No intraoperative IV opioids after induction without discussion with Attending Anesthesiologist. If patient is frail this may be achieved with epidural hydromorphone alone, especially in laparoscopic cases
- In chronic pain patients consider adding pre-incision IV ketamine 0.3-0.5mg/kg and infusion 4 mcg/Kg/min during surgery

(B) Thoracic epidural unsuccessful or contraindicated

- IV lidocaine pre-incision bolus 1mg/kg and infusion 0.5 - 1 mg/kg/hour
- IV ketamine bolus 0.3-0.5mg/kg and infusion 4mcg/kg/min
- Hydromorphone boluses as needed

5. ANTIBIOTIC PROPHYLAXIS

Distal Pancreatectomy:

- a. First line – **Cefazolin 2G IV (<120kg) or 3G IV (>or = 120kg)- Redose every 4 hours.**
- b. Second line for beta-lactam allergy – Clindamycin 900mg IV+ ciprofloxacin 400mg IV. Re-dose clindamycin after 6 hours.

Whipple:

- a. First line – **Cefazolin 2G IV (<120kg) or 3G IV (>or = 120kg) + Metronidazole 500 mg IV**
- b. Second line for beta-lactam allergy – Clindamycin 900mg IV+ ciprofloxacin 400mg IV. Re-dose clindamycin after 6 hours

6. LOW FLOW ANESTHESIA at flows ≤ 1 l/min

7. GASTRIC TUBE -

- a. **Distal Pancreatectomy** - Orogastric tube to be removed at the end of surgery
- b. **Whipple-** Nasogastric Tube to be placed at end of surgery

8. PONV prophylaxis – dexamethasone 4mg IV at start of case, Zofran 4mg IV when closing

9. FLUID THERAPY-

Optimize with Goal Directed Fluid Therapy (GDFT)

- Continue LR infusion 3ml/Kg/hour
- GDFT with boluses of colloid to optimize SV/SVV using a CO monitor
- Record stroke volume (SV)
- Give a 250ml colloid bolus over <15 min (can omit if SVV < 10%)
 - If SV increases by >10 % repeat bolus
 - If SV increases by < 10% patient does not require a further bolus
 - Record peak value achieved
 - If still hypotensive consider phenylephrine bolus or infusion
 - Give a further colloid bolus when SV drops 10% from peak value
 - Repeat cycle

10. VENTILATION/OXYGENATION

- Maintain TV 6-8ml/kg

11. URINARY CATHETER- Remains in place at end of surgery

Revision History:

Created by:	Timothy Miller	Date:	3/2013
Version 2:	Timothy Miller	Date:	5/2016
Version 3:	Timothy Miller	Date:	5/2017