Liposuction for Lymphedema Pathway 4/25/2021
Surgeon: Dhruv Singhal, MD

Goals: minimize pain and PONV after surgery
Expected LOS: 3.5 days (pain, dressing changes, ambulation)

1) **Preoperative medications:**
   - **a)** Acetaminophen 1000 mg PO
   - **b)** Pregabalin 50-75 mg PO
   - **c)** Celecoxib 400 mg (avoid in patients with GFR < 40)
   - d) Methadone 5-10 mg IV (will be given in OR by anesthesia)
     - i. order as premed 24 hr in advance (pharmacy needs to make this up)
     - ii. administer in OR after induction

2) **Intraoperative Medications:**
   - A) **Induction:**
     - i. Rocuronium: OK
     - ii. Propofol
     - iii. Lidocaine 0.5-1 mg/kg IV prn
     - iv. Esmolol 0.5-1 mg/kg IBW IV prn during induction
       a. HR, BP control
       b. Reduces QT interval associated with laryngoscopy

       Consider avoiding fentanyl
       -Prolonged adverse effects of respiratory depression and PONV
       -Increased risk of post-induction hypotension and bradycardia.
       -Less effective than esmolol for blunting HR during intubation.
   - B) **Maintenance:**
     - i. Ketamine: bolus 0.2 mg/kg IV IBW
     - ii. Ketamine infusion: 0.2 mg/kg/hr IBW
       (titrate 0.1-0.3 mg/kg/hr)
     - iii. Dexmedetomidine: 0.2mcg/kg/hr IV IBW
       (titrate 0.2-0.4 mcg/kg/hr)

iv. Dexmedetomidine loading dose (0.5 mcg/kg IV IBW over 20 min) **not** recommended unless patient highly opioid-tolerant.

v. Methadone 5-10 mg IV after induction (0.1-0.2 mg/kg IBW)- see contraindications

vi. Hydromorphone 0.5-1 mg IV prn pain (if not eligible for methadone or if has pain s/p extubation).

vii. PONV medications per PONV guidelines

viii. Antibiotics per ID guidelines

If patient has respiratory depression in PACU after methadone (rare), prolonged narcan administration may be required.

C) <u>Contraindications to Methadone:</u>

Preoperative buprenorphine, oxycontin, MS contin use

Chronic methadone use (give normal daily dose, consider dividing to TID for improved analgesia)

Long QT syndrome.

HIV + on medications

Chronic use of drugs that prolong QT (use of ondansetron or low dose haloperidol at end of case OK)

HIV meds
Flecanide
Chloroquine
Clozapine
Probucel
When in doubt, check Lexicomp or other reference.

<u>3) Postoperative Medications:</u>

a) Acetaminophen 1 gm Q 6-8 hr x 3 days

b) Oxycodone 5-15 mg Q 4 hr prn

Alternatives:

i. Hydromorphone 2-4 mg Q 4 hr prn
ii. Tramadol: 50-100 mg Q 6 hr prn
iii. MSIR: 15-30 mg Q 4 hr prn

c) Hydromorphone 0.5-1 mg IV Q 4 hr breakthrough pain.
d) Celecoxib 200 mg PO Q 12 (during hospitalization)
e) Lorazepam 0.5-2 mg PO Q 6 hr prn anxiety.

Alternative analgesia regimens for highly tolerant patients: Please discuss with surgeon:

Epidural: for lower extremity Liposuction
Brachial plexus block: for upper extremity
Ketamine infusion post op
APS consult: for patients with poor analgesia* despite up-titration of opioids and using multimodal analgesia.
APS/CPS consult: Consider for patients on methadone, buprenorphine, or naltrexone.

4) References:

1)Intraoperative methadone is associated with decreased perioperative opioid use without adverse events: a case-matched cohort. Robinson, JD, etal. J Card and Vasc Anesthesia; 2020; 34: 335-41.

2)Intraoperative methadone reduces pain and opioid consumption in acute postoperative pain: a systematic review and meta-analysis. Anesth Analg 2019; 129: 1723-32.

3)Low-dose ketamine in painful orthopedic surgery: a systematic review and meta-analysis. Riddell JM, Trummel JM, Onakpoya IJ. BJA 2019;123: 325-34.

4) Intraoperative s-ketamine for reducing opioid consumption 1 year after spine surgery: a randomized controlled trial of opioid-dependent patients. Nielson RV, etal. Eur J Pain 2019;23: 455-60.