Let’s Discuss Sympathetic Blocks
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ASPMN 19th Annual Conference
September 2009

Types of blocks
- Stellate
- Celiac plexus
- Lumbar sympathetic
- Hypogastric

Clinical considerations
- Off anticoagulation meds
  - Stop coumadin 5-7 days in advance with prescriber permission
  - Lovenox—check with prescriber
- Lumbar/Abdominal blocks
  - Able to tolerate being on abdomen ~ an hour
    - Positioning
    - Breathing
    - Comfort
Contraindications in all
- Coagulopathies
- Infections

Possible after effects
- Local discomfort
- Possible nerve damage
- Bleeding
- Infection

Stellate
- Indications
  - Acute herpes zoster & PHN
  - Acute frostbite
  - CRPS
  - Refractory angina
  - Phantom limb pain
  - Cancer pain of head, neck & upper extremities
  - Vascular insufficiency
    - Raynaud’s syndrome
    - Frostbite
    - Scleroderma
    - Obliterative vascular disease
  - Some atypical vascular headaches
- Little prospective clinical data
Contraindications

- Anticoagulants
- Contralateral pneumothorax or pneumonectomy
- Recent MI
  - Decreases cardiac sympathetic firing leading to bradycardia

Relative contraindications

- Glaucoma
  - May worsen glaucoma
- Impaired cardiac stimulus conduction
  - Stellate can increase bradycardia

How is the block done

- Anterior** or posterior approach is possible
  - Sitting or supine
  - Palpate for C6 transverse process
  - Needle straight back
  - Local anesthetic injectate
    - Bupivacaine, ropivacaine
    - Phenol or alcohol for neurolytic injections
- With or without fluoroscopic guidance and contrast
- Posterior approach
  - Used if infection, trauma or tumor precludes anterior approach
  - If neurolysis is desired
Horner’s syndrome

- Ptosis
- Miosis
Potential side effects

- Expected
  - Horner’s syndrome
  - Extremity warms to touch

- Possible
  - Hoarseness
  - Dysphagia
  - Feeling of “lump in throat”

Potential Complications

- Vascular injury
  - Injury to carotid or jugular
  - Hematoma and potential spinal cord injury

- Nerve injury
  - Injury to nerve roots

- Pulmonary injury—pneumothorax

- Spread of local anesthetic
  - Vascular
  - Epidural/intrathecal
    - “High spinal”
      - Intubate until local anesthetic wears off

Lumbar sympathetic nerves
How these blocks are done

- Sterile prep
- Measure 2 ¼-3 ½ inches from spine vertebrae—fluoro assist
  - Celiac—L1
  - Lumbar sympathetic—L2
  - Hypogastric—L5
- Insert needle to touch vertebrae
- Redirect needle so it passes by the vertebrae
- Contrast dye and fluoro to assure placement
- Infuse injectate
  - Bupivacaine, ropivacaine
  - 50% alcohol or 6% Phenol for neurolytic blocks

Celiac Plexus Block

- Indications
  - High abdominal cancers
  - Acute pancreatitis
    - Blocks may be done daily
  - Acute pain r/t hepatic artery embolization
  - Abdominal “angina” associated with visceral artery insufficiency
  - Chronic pancreatitis in select patients
Potential side effects

• Diarrhea
• Hypotension
• Increased bowel motility
  – Diarrhea ~50% of patients
  – Cramping
• May decrease nausea and vomiting

Potential complications

• Paralysis
• Neurologic deficits
• Discitis if too close to the disc
• Pneumothorax
• Kidney or ureter trauma if needle placed wrong
• Thoracic duct trauma if needle placed wrong

Lumbar sympathetic block

• Indications
  – CRPS
  – Circulatory insufficiency of legs
    • PVD, diabetic neuropathy, gangrene, Raynaud’s, frostbite, Buerger’s disease
  – Phantom pain
  – Possibly discogenic pain with pseudo-sciatic radiation
  – Hyperhydrosis
  – Pelvic malignancies--neurolytic
  – Deafferentation pain syndromes--neurolytic
Potential side effects

- Damage to viscera
- Intraspinal injection
- Infection
- Bleeding
- Discitis

Hypogastric block

- Indications
  - Gynecologic disorders
    - Endometriosis, Adhesions, Chronic pelvic pain
  - Other lower abdominal pain problems
    - Interstitial cystitis, irritable bowel syndrome, pain after surgeries
  - Lower abdominal and pelvic cancers
    - Bladder, uterus, vagina, prostate, rectum
Monitoring during procedure

• Patent IV
• +/- sedation
• Respiratory status—constant O2 sats
• ECG monitoring
• BP q5min
• Patient comfort
• Constant “eyes on”

Monitoring after procedure

• 45-60 minutes
• Institutional monitoring for moderate sedation
Patient follow-up

• Patient specific
  – Determined by patient condition
• Clinician preference

Patient/family Education

• What it is
• How it's done
• Expected benefits
• Potential expected and unexpected side effects/complication
• When, where, how, monitoring, pain control during, post-procedure care
• Length of effect
• Can it be repeated? How often?

References