Abdominal Wall Pain

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Abdominal Wall Pain

- Under recognized
- Under appreciated
- Not frequently taught
- Not a common topic in medical literature
Abdominal Wall Pain Is Cutaneous Sensory Nerve Pain

- Easily confused with visceral pain
- Diagnosis is made entirely by history and physical exam
- Treatment is local injection with local anesthetic drug and long acting steroid
Epidemiology

- Incidence estimated at 1/1800
- 15-30% among patients with prior evaluation of abdominal pain and no diagnosis
- Can occur at any age but peak incidence is age 30-50
- Four times more common in women than in men
Anterior Cutaneous Nerve Entrapment Syndrome

- Caused by entrapment of cutaneous branches of nerves supplying the abdominal wall.
- Cutaneous nerves make a 90° angle as they pass through abdominal wall layers.
- Nerves pass through a fibrous ring within the lateral border the rectus abdominis.
- Entrapment of nerve fibers can be caused by intra- or extra- abdominal pressure, ischemia, compression by herniation of the fat pad that normally protects the nerve in the canal or localized scarring.
Anterior Cutaneous Nerve Entrapment Syndrome

- Patient can usually point to site with one finger
- Pain is localized to a discrete region—usually lateral rectus line
- Pain is from A-delta nociceptors found in skin and muscle
- C type nociceptors innervate periosteum, parietal peritoneum and viscera and mediate dull poorly localizing pain of intraperitoneal pathology
Clinical Features

- Chronic pain present for months to years
- Maximally tender over a small area (i.e. trigger point pain)
- Usually along lateral edge of rectus muscle sheath
- Pain can occur anywhere in abdomen and can be more than one site
- Pain is often worse sitting or standing and relieved by lying down
- Pain is not related to meals or defecation
- More often right-sided than left-sided
Based purely on history and physical exam

Patient will often point to the painful site with one finger

Labs and imaging will not make the diagnosis, and alarm symptoms or lab or imaging abnormalities need to be evaluated.
Physical Exam

- Patient will often point to site with one finger
- Voluntary guarding, hyperesthesia, or hyperalgesia may be present
- Caret’s sign is localized muscle pain during flexion of abdominal muscles. I have them raise their head (stomach crunch) or do a leg lift while I palpate.
- Abdominal wall pain is worse with abdominal wall muscles flexed and less with abdominal muscles related.
Red Flags

- GI bleeding: melena or hematochezia
- Abnormal labs
- Anorexia, weight loss
- Abdominal mass
- Change in bowel pattern
- Systemic symptoms (e.g. fever/chills)
Injection with local anesthetic and corticosteroid is both diagnostic and therapeutic.

Pain may be worse 3-4 hours after infection from exam and manipulation once anesthetic wears off.

I tell patients that steroid takes a few days to work and that if they respond, they’ll notice pain is less bothersome over the next week.

Injection can be done up to 3x before abandoning the diagnosis.

80-90% of patients will get immediate relief if the diagnosis is correct.
Conservative Management

- Patients are instructed to avoid abdominal crunches or strenuous abdominal workouts (e.g. Pilates) until symptoms settle down.
Injection Technique

- Have patient localize tender site with one finger.
- I mark the site with an “X.”
- Skin is steriley prepped with alcohol swabs
- I inject 2 cc of 0.25% bupivicaine mixed with 1 cc of dexamethasone 1 mg/ml injected deeply into rectus sheath with a 1 and ½ inch 25g needle.
- Reassess in one month. Chemical neurolysis is an option if there is no response after 3 injections.
Differential Diagnosis

- Xiphoidalgia – pain or hypersensitivity from xiphoid cartilage
- Nerve entrapment in prior abdominal surgery scars (e.g. RUQ cholecystectomy scars, laparoscopy scars, lower midline scars or hernia repair scars)
- Abdominal wall endometriosis – can occur in scars after gynecologic or obstetric surgery
- Thoracic nerve radiculopathy
Lower rib pain syndromes
- Slipping rib syndrome
- Ribs on pelvis syndrome (e.g. in ankylosing spondylosis)

Ilioinguinal nerve pain
- Most common cause is lower abdominal surgery or hernia repair
- Pain is from ilioinguinal nerve neuralgia and is burning often radiates to genital area or top of thigh