OBJECTIVES

• Define Chronic Pelvic Pain (CPP)
• Discuss Evidence based approaches to medical management
• Focus on 3 common pelvic pain conditions

Chronic Pelvic Pain

From UpToDate:
Chronic pelvic pain is defined as pain that occurs below the umbilicus that lasts for at least 6 months. It may or may not be associated with menstrual periods.
Also:
It may be a "symptom" of another disease or may be a condition of its own.

Treating Chronic Pelvic Pain

• Pelvic Pain as the disease, or
• Pelvic pain as a multifactorial entity
• 70% of cases of CPP are estimated to be non-gynecologic
• Reminding ourselves to remain compassionate and creative

Howard FM. Chronic pelvic pain, Obstet Gynecol. 2003;101: 594-611.
Characteristics of the Chronic Pain Syndrome

• Duration of 6 months or more
• Incomplete relief by previous treatments
• Pain out of proportion to tissue damage
• Loss of physical function
• Vegetative signs of depression
• Altered family dynamics


Central Sensitization

• Chronic pain can result in Central Sensitization
• Maintains chronic pain pathways between peripheral body and CNS
• Management tailored to multimodal treatments and centrally acting medications:
  — Treat both somatic and visceral body
  — Adjunctive medications and modalities

Howard, FM, Butrick, CH. “Discordant urination and defecation as symptoms of pelvic floor dysfunction”. Pelvic Pain: Diagnosis & Management, Lippincott Williams & Wilkins.

Centralization of Pain

“Metabolic and neuropathic changes in the spinal cord, resulting from prolonged noxious stimuli to the spinal cord, that can result in persistent pain that is neurologically maintained even when the original insult has been eradicated.”

Howard, FM, Butrick, CH. “Discordant urination and defecation as symptoms of pelvic floor dysfunction”. Pelvic Pain: Diagnosis & Management, Lippincott Williams & Wilkins.

Somato-visceral convergence

Centralized Pain

Chronic Pelvic Pain Breakdown

• **Gynecologic**: Endometriosis, cysts, adenomyosis, vulvodynia, pudendal neuralgia, prolapse, adhesions...
• **Urologic**: Bladder Pain Syndrome/Interstitial Cystitis
• **GI**: IBS, chronic constipation
• **Myofascial pain**: Abdominal wall trigger points, pelvic floor myalgia
• **Psychiatric**: PTSD, history of abuse
• **Neurologic**: eg. Pudendal Neuralgia

Pelvic pain that does not respond to combined oral contraceptives: think endometriosis and consider referral

OCP for pain

Persistent pain

High risk endometriosis

Improvement

Low risk endometriosis
Cochrane Review: Non-surgical management of chronic pelvic pain

- Chronic pelvic pain is complex
- Up to 55% of women with CPP have no findings on laparoscopy (Howard, 1993)
- Up to 85% have dysfunction of musculoskeletal system
- CPP carries a significant mental, social and physical burden for the sufferer as well as the healthcare system

Non-surgical interventions for the management of chronic pelvic pain.

YC Cheong, Gsmotra, ACCWilliams, Cochraine Library, March 2014

Non-surgical interventions

- 13 RCT studies were included
- DMPA compared with placebo
- Treatment with DMPA improved pain >= 50% reduction VAS pain scores
- DMPA associated with weight gain/bloating

YC Cheong, Gsmotra, ACCWilliams, Non-surgical interventions for the management of chronic pelvic pain. Cochraine Library, March 2014

Gabapentin vs Amitriptyline

- Primary outcome: Pain
  - VAS pain score favored gabapentin compared with amitriptyline at 24 months (95% CI -2.6 to -0.94) (Sator-Katzenschlager 2005)
- Authors reported no significant difference in rate of side effects

Gabapentin vs Amitriptyline

YC Cheong, Gsmotra, ACCWilliams, Non-surgical interventions for the management of chronic pelvic pain. Cochraine Library, March 2014

Epidemiology of Endometriosis

- 6-22% of women at time of Tubal Ligation
- 15-80% of women with CPP
- 21-65% of women with infertility
- 7-10% of population


Medical management of Endometriosis

EMPIRIC use of a gonadotropin-receptor hormone analogue (GnRH agonist) has been tested in a single randomized controlled trial (by Ling) in 100 women with clinically suspected endometriosis. After 12 weeks of therapy with Lupron 3.75 mg/mo, women had decreased dysmenorrhea and pelvic pain.

Medical management of Endometriosis


HOWEVER,

GnRH agonist incorrectly predicted the presence or absence of endometriosis in 32% of patients.

Role of stress

• Studies on endometriosis have shown us that endometriosis is associated with increased levels of stress (actual increased levels of stress hormones)
• In animal model, the endometriotic lesions actually seem to induce increased levels of stress.
• Stress management: counseling, acupuncture, massage, medications
• Lifestyle modifications: decreasing caffeine and alcohol

Endometriosis alters brain electrophysiology: increased pain sensitization and anxiety in mice

Acupuncture for pain in Endometriosis

• Cochrane review
• 24 studies reviewed: one met all criteria based on the Guideline for Clinical Research on New Chinese Medicine
• Auricular acupuncture significantly reduced pain in cases of severe dysmenorrhea

Medical Management

Does using a levonorgestrel IUD after conservative surgery for endometriosis improve pain?

YES

Randomized trial. Vercellini et al. 40 patients with stage III-IV endometriosis randomized to either LNG-IUS or expectant management after laparoscopic treatment. Significant reduction in pain (10% vs 45%).

Need to treat 3 patients for 1 to benefit.

Endometriosis post surgery

• Hormonal suppression (Progestin-only therapy may be superior)
• Consideration of GnRH agonist
• Gabapentin or Amitriptyline
• Manage depression if present
• Acupuncture treatments
• Stress reduction strategy

Ear Acupuncture Therapy for 37 Cases of Dysmenorrhea Due to Endometriosis

Xiang Dongfeng, Shao Yi, Wei, Lian, Xiao Feng

Hormonal suppression

• Routinely a first-line treatment for pelvic pain and dysmenorrhea
• Goal is to induce amenorrhea, oligomenorrhea or to decrease dysmenorrhea

OCP, Levonorgestrel IUD, Nexplanon, etc.

Pharmacological Management of Chronic Pelvic Pain in Women

Carey ET, Thil SR, As-Sanie S, Pharmacological Management of Chronic Pelvic Pain in Women, Drugs (2017) 77: 285-301
Interstitial cystitis/Bladder Pain Syndrome
- Chronic inflammatory condition of bladder
- Classic symptoms: urgency, frequency, nocturia, pelvic pain and dyspareunia
- Absence of objective evidence of another disease
- Characteristic cystoscopic findings:
  - Decreased bladder capacity
  - Glomerulations in 4 quadrants after hydrodistention
  - Hunner’s ulcers (pathognomonic)
  - Curtain sign

Diagnostic tests
- Anesthetic Bladder Challenge
  - Instillation of numbing medication in the bladder (Bladder instillation)
- Cystoscopy with hydrodistention
  - Usually done in the operating room
  - Filling it to capacity and maintain for 2 minutes
  - Observe changes while emptying
  - Refill and observe for glomerulations

IC/BPS: First-line treatment
- Dietary: Eliminate caffeine, sodas, chocolate, alcohol first
- Increase intake of water
- Tobacco cessation
- Physical therapy

Medications for IC/BPS
- Amitriptyline 25 mg oral at bedtime
- Hydroxyzine 25 mg oral at bedtime
- Cimetidine 400 mg oral daily
- Bladder instillations can be done in clinic:
  - Solumedrol
  - Heparin
  - Sodium bicarbonate
  - Bupivacaine

Myofascial Pain Syndrome
- Pelvic floor myalgias
  - Prospective analysis: Up to 73% of women with self-reported pelvic pain demonstrated pelvic floor tenderness on exam
- Vaginismus
  - Involuntary contraction of perineal and levator muscles

Myofascial Pain

- Frequently missed source of pelvic pain
- Should always be evaluated before doing hysterectomy for pelvic pain
- Most common somatic cause of pain when diagnostic laparoscopy is negative
- Myofascial pain often mis-labeled as “psychosomatic”
- Can overlap with visceral pain (neural “cross-talk”)

Carnett’s test

- With single digit pressure, examine patient’s abdomen for specific areas of pain
- Have the patient raise her head enough to tighten the abdominal wall.
- If the pain lessens with this, one can assume the pain is deep to the abdominal wall.
- If the pain intensifies with this manoeuver, one can assume the pain is within the abdominal wall.

Abdominal Wall Trigger Points

- Early work by John Slocumb (1983) documents relationship between trigger points of abdominal wall fascia and coexistence of recurrent visceral dysfunction
- Afferent nerve supply to abdominal wall overlaps at dorsal root with afferent and efferent visceral nerves
- Single digit pressure exam
- Trigger Points in fascia or scar tissue do not have classic referred pain zones


Trigger Points

- Travell and Simons characterize trigger points as: “focus of hyperirritability on a muscle or its fascia that is symptomatic with respect to pain”
- Refers a pattern of pain at rest or in motion that is specific for the muscle
- Palpation of trigger points often reproduces the sensation of pain
- Can closely mimic visceral disorders


Electron micrograph of TP

Iliopsoas muscle

- Most powerful hip flexor
- Often a history of aerobics or stairstepping exercise
- Laparoscopic surgery may have preceded pain
- Can cause low back, lower abdominal and anterior hip pain
Iliopsoas trigger points

Referred pain pattern for trigger points in External Oblique

Trigger Point Injections
- Myofascial Trigger Points with specific referred pain patterns
- Matrix points are injected with 3-5 cc of anesthetic solution
- Lidocaine, bupivacaine with or without epinephrine are traditionally used.
- Needle the TP to identify exact point that mimics the pain. Withdraw for blood. Inject anesthetic.

Ilioinguinal-Iliohypogastric Nerve Block
- Point of injection is 2 cm superior and medial to the ASIS
- A blunt needle tip is ideal. The needle is inserted through the skin and through the aponeurosis of the external and internal oblique muscles.
- Ultrasound guidance may be helpful
Vaginal Trigger Point Injections

- May need to be done in the operating room with IV sedation
- Some patients tolerate this in clinic
- Patients need to be responsive enough to direct injections
- Use Pudendal Nerve kit needle and “Iowa Trumpet” or similar guide

Vaginal Botox Injections

- Botox injections may be used
- Not FDA approved for pelvic floor spasm but still used and highly effective in select patients
- Block acetylcholine release from presynaptic neurons

Pelvic Floor Physical Therapy

- Therapists specially trained to work on the muscles of the pelvic floor including transvaginal and trans-rectal work

- Muscles of the pelvic floor can be treated in much the same way neck and back muscles are treated.
PT: Vaginal Biofeedback

Connects to a unit that senses pressure. Patients learn to relax muscles with biofeedback.

Tool box: Modalities reviewed

- Judicious use of pain medications (avoiding opiates)
- Hormonal therapy
- Anti-convulsants (eg. Gabapentin)
- Antidepressant medications
- Physical therapy pelvic floor, massage and acupuncture
- Trigger point injections

Non-surgical interventions for the management of chronic pelvic pain. YC Cheong, Gsmotra, ACCWilliams, Cochraine Library, March 2014

REFERENCES

3. Howard, FM, Butrick, CW. “Discordant urination and defecation as symptoms of pelvic floor dysfunction”. Pelvic Pain: Diagnosis & Management, Lippincott Williams & Wilkins.

REFERENCES (Cont.)


Thank you