IC / PBS and Associated Disorders

CHARLES W BUTRICK MD, FPMRS, FACOG
THE UROGYNECOLOGY CENTER
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Nothing to declare
IC / PBS is a Pain Disorder and We All See IC

- IC / PBS is a common disorder affecting 2.7% to 6.5% of all women

- Chronic Pelvic Pain affect 5.7% to 25.6% of all women
  - Alebtekin, Pain Physician 2014

- Chronic Widespread Pain affect 9.6% of individuals (women > men)

- 24% of all women seen by a urogynecologist for incontinence and/or pelvic organ prolapse have pelvic floor myalgia, 7% of pts seen in urogyn practice have DX Fibromyalgia and 50% more symptom “bother” w POP
Prevalence of Nonurologic Somatic Syndromes

- MAPP database, RICE criteria
- 424 pts with IC / PBS (+RICE then 47% with NUSS)
- These patients have more severe symptoms
  - IBS 22%
  - Fibromyalgia 4%
  - Chronic fatigue syndrome 3%
  - Multiple somatic syndromes 10%
Why Is This Talk The Most Important?

**POTENTIATORS**
- PF HT Dysfunction
- Childhood ped elim Disorders
- rUTI, Constipation, NNNB
- Vulvar Pain
- Chronic PP Disorders
- IBS
- Fibromyalgia
- Mycoplasma / Ureaplasma
- Genetics

**ASSOCIATED DISORDERS**
- PF HT Dysf and Pain
- Vulvodynia
- IBS
- Sleep disorders
- CFS
- Firomyalgia

IC / PBS

PAIN
Prolonged Noxious Stimuli

Dorsal Horn Up-regulation and Central Sensitization

Sensory Processing Abnormalities
Neuropathic Responses

GOAL: Decrease the volume of noxious stimuli that maintains centralized pain
Etiology of PF Hypertonic Dysfunction

- Neuromuscular injury
  - Birth trauma (esp. w/ forceps)
  - Straddle injuries (tailbone “FX”, auto accidents, etc)

- Chronic Pain Disorders (neuropathic reflex)
  - Vulvodynia
  - Interstitial Cystitis
  - IBS
  - CPP syndromes (endometriosis, Post hyst pain, etc)

- Dysbehaviors
  - Childhood disorders (UTI’s, Vulvar pain, Constipation, etc)
  - Holding patterns
Pelvic Floor Hypertonic Disorders

- Present in 85+% of patients with IC / BPS
- PF can trigger bladder symptoms
  - Voiding dysfunction triggers c-fiber upregulation
  - Pressure can mimic feeling of fullness
  - PF can urethral symptoms (urethral syndrome)
- IC/PBS can trigger the pelvic floor to become hypertonic
  - Bladder pain causes secondary PF dysfunction
  - Post void fullness causes “holding pattern”
Clinical Diagnoses Associated with Discordant Voiding

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Hypertonic Pelvic Floor Dysfunction and Pain

- Urinary Frequency
- Bladder Pain
- Voiding Dysfunction
- Any Pelvic Pain
- Hypertonic PF and MF Pain
- Vulvodynia
Don’t Be fooled by Bladder Symptoms Caused by the Pelvic Floor

- Post void fullness, esp. when lying down
- Dysuria / urethral pain: prior to voiding, start of void or at the end of void
- Continuous urethral burning (urethral syndrome)
- Hesitency, esp after sex
- Frequency that resolves / improves during sleep
- Recurrent UTI’s associated with IC / BPS (20% of IC flares are culture + flares)
Elevated Urethral Pressures
Manual Physical Therapy in Patients with Interstitial Cystitis

Study by Lukban et al, The Pelvic Floor Institute Graduate Hospital, Philadelphia, Pennsylvania

- N=16, diagnosis of IC & PFD, confirmed SI dysfunction
- Age range = 27-63
- Mean Number of PT visits = 8.72
- Modified Oswestry Sex Life Scores:
  - Improvement in 94% (15/16) patients
  - 9 pts returned to pain-free intercourse
- Conclusion: Manual physical therapy is effective in reducing the severity of irritative voiding & dyspareunia in IC pts born of SI dysfunction.
Physical Therapy
Soft Tissue Mobilization

- Heat via ultrasound
- External stretching and flexibility maneuvers
- Myofascial mobilization techniques
  - Thiele massage - 1937
- Iced alcohol and gel condoms pm
- Vaginal dilators for self-massage
**Adjunctive Therapies**

- 3 hot baths per day
- **Tricyclic Antidepressants**
  - Diazepam, Ultram
- **Neurolytic Therapy**
  - Clonazepam / Klonopin 0.5 mg – 5 mg /day
  - Phenytoin / Dylantin 100 mg – 300 mg /day
  - Carbamazepine / Tegretol 200 mg – 400 mg /day
- Psychological consult – early referral best
- Acupuncture
- Trigger Point therapies
Dilators
Pelvic Floor Myofascial Trigger Points: Manual Therapy for IC & Urgency-Frequency Syndrome

- Retrospective study
- Age range 26-80, n = 52, all having failed other therapies
- Duration of symptoms: 6-14 years
- 70% moderate to marked relief for IC group
- 83% moderate to marked relief for U/F
- Marked reduction in pelvic floor hypertonus

Pelvic Floor Dysbehaviors

**Acute Injury**
- Levator injury with deliver
- Straddle injury / bicycling
- Pelvic surgery

**Cumulative M. Overload**

**Hypertonic State**

**Myofascial TP and Pain**

**Levator Dysfunction**

**Centralization**
- Interstitial Cystitis
- Irritable Bowel Syndrome
- Endometriosis
- Vulvodynia

**Chronic inflammatory painful conditions of pelvis**
- Life-long voiding dysfunction
- “Holding” habits
- Postural problems
- Visceral Pain Syndromes
  - IC
  - IBS
- Endometriosis
- Vulvodynia
Mycoplasma h. and Ureaplasma u. Associated with Chronic UT Symptoms

- Originally reported by Potts / Rackley in Urol 2000
- 23/48 (48%) women with symptoms of PBS + for Ureaplasma
  - Treatment resulted in reduction of symptoms
    - severity score 2.2 to 0.7 $p<0.001$
    - Urinary frequency: 9.2 to 6.8 $p<0.001$
- Baka showed 81/153 9 (52.9%) women with chronic voiding symptoms
  - After therapy all symptom scores improved (pelvic pain, dysuria, dyspareunia, urgency and frequency) all at $p <0.001$
- Found in approx. of 8-10% of asymptomatic women but also associated with many significant problems esp poor pregnancy outcomes
Etiology: Neuro-inflammatory Model
D C Foster, 2003

Inflammatory Insult

- Localized marked ↑ in Pro-inflammatory Cytokines, genetic predisposition?
- Activation of peripheral Nerves – “local sensitization”
- Dorsal Horn upregulation “central sensitization”
- Antidromic neurogenic inflammation

Vulvodynia

Associated symptoms of U/F, IC, IBS, PF hypertonic disorders

Laser treatment Chronic yeast Vaginal delivery

Chronic yeast Vulvodynia
Vulvar Burning and/or Dyspareunia with Skin Changes

- **Lichen Sclerosi**s
  - dyspareunia not as prominent
  - Biopsy proven
  - Therapy: Clobetasol propionate 0.05% bid X 4 wks, q HS X 4 wks, then prn

- **Steroid Rebound Dermatitis**
  - Telangiectasias, hyperplasia of sebaceous glands
  - Therapy: topical steroids, tapered; 1% HC
Localized Vulvodynia
Vulvar Vestibulitis

- Point tenderness at vestibular gland opening (with or without redness)
- Pain just with sex, typically introital penetration
- Often associated with PF tension dysfunction (88%)

Therapy:
- Topical steroids
- PF physical Tx (biofeedback and soft tissue work)
- Amitriptyline 25 – 75 mg
- Surgical excision: Woodruff procedure; not for generalized V
- Local injection of steroid for sites of failure
Generalized Vulvodynia

Essential Vulvodynia

- Not related to touch
- +/- erythema, PFM tenderness
- Often associated with urgency/frequency syndrome, FBD, fibromyalgia

Therapy:
- Amitriptyline 25 – 75 mg/d
- Gabapentin 1200-2400 mg/d

Treat other sites of pain
- IC
- PFTM: Physical therapy

If TX converts GDV into LDV, then treat as LDV
Local Down-regulation

- Lidocaine 2-5% cream (compounded)
  - Apply QID to PRN for 3-4 months
  - 30 to 50% response rate
- ABG cream (compounded w/ pluriderm base)
  - 2.5% amitriptyline
  - 2.5% gabapentine
  - 2.5% to 5% baclofene
  - Apply BID to TID for 3 months
- Local anesthesia and Steroid injections
- Intramuscular Botox® esp. for resistant PFTM
Sexual Dysfunction and IC/BPS

- Sexual dysfunction affects 40% of all women
  - Lack of interest 31%
  - Arousal disorders 19%
  - Orgasmic dysfunction 25%
  - Pain 15%
  - Lack of pleasure 25%
- Prevalence of sexual dysfunction in IC/BPS not well studied
  - Range 13-87%
RAND Study 146,231 household screened for IC then f/up call

1,469 completed sexual dysfunction questionnaires

Of those with sexual partner (75%)

- 88% had at least one sexual dysfunction (vs 43%)
- Pain during or after sex in 66% (vs 15%)
- Lack of interest in 64% (vs 31%)
- Arousal disorder in 61% (vs 19%)
Approaches to Sexual Dysfunction in IC/BPS

- Bring up the subject, many patients do seek care but major affect on QOL
- Patent education: common and involves multiple pain generators
- Sex therapist for patient and partner
- Treat the PF dysfunction
  - Physical therapy (awareness, relaxation techniques and vaginal dilators)
  - Baclofen Supp 1 hour prior to sex
  - Botox for PF muscles (100-200 units)
    - In vaginismus population 71% with pain free sex: Pacik sex med 2017
- Treat the Vulvodynia
  - Physical therapy, topicals including lidocaine (partner to use a condom)
21 women with IC (42.9%) and vulvodynia (66.7%)

100-300 units used with EMG guided approach (?)

At 4 weeks: 58.8% and at 12 weeks: 80% less dyspareunia

Adverse events (likely dose / location related and worsening of pre-existing symptoms)

- Constipation 28.6%
- Stress incontinence 4.8%
- Fecal incontinence 4.8%
Irritable bowel Syndrome and IC / PBS

- IBS-D, IBS-C, IBS-A: therapies are targeted toward the type of dysfunction
- Most common cause of CPP
- Induces abdominal wall trigger points, centralized pain, PF HT Dysfunction,
- Prevalence varies between 10-30% (USA approx. 20%)
- Women > men
- Associated with FM, CFS, IC, TMJ, CPP, chronic back pain, chronic headache in more than ½ of IBS pts
a functional bowel disorder in which abdominal pain or discomfort is associated with defecation or a change in bowel habit, and with features of disordered defecation.

Possible Subgroups Include:
- Motor Dysfunction
- Visceral Hypersensitivity
- Post-Infectious – Immune Dysfunction
- Central Pain Dysregulation

Rome III, 2006
Correction of Diarrhea

- Fiber supplements
- Loperamide (Imodium) is the most studied drug
  - 2-6 mg / day, given prior to meals
  - Better than fiber in randomized trials (Lauti)
- Amitriptyline 25-50mg Q HS, studied in IBS-D
- Dyphenoxylate (Lomotile) but side effect profile is not ideal
- Aloseteron (Lotronex) is most effective but requires special web-based training due to risk of constipation / Isch. Colitis
  - www.lotronexppl.com
  - .5 to 2 mg / day
IBS-Diarrhea Treatment

- **Rifaximin / Xifaxan**
  - Nonabsorbable antibiotic, no drug-drug interactions
  - 550 mg TID x 2 weeks
  - 40% response - 10% better than placebo

- **Eluxadoline / Viberzi**
  - Opioid receptor agonist / antagonist
  - 100mg BID
  - 29% response vs 16%
  - Due to risk of pancreatitis never give to pts w/ hx of cholecystectomy or pancreatitis
IBS-Constipation Treatment

- Normalize consistency of stool
  - Fiber supplements if small stool (combine with stool softeners if needed)
  - Stool softeners if hard and normal to large size
  - MOM daily, magnesium supplements, senna (yes it is OK),
  - Osmotic laxatives
- Avoid chronic stimulant laxatives
- Increased fluids only helpful if fluids were restricted with onset
- Treat the pelvic floor hypertonic dysfunction (1/3 of all constipation, esp if lifelong constipation and obstructed defecation)
**IBS - Constipation Treatment**

- **Linaclotide / Linzess**
  - 72mcg, **145mcg, 290mcg** daily, 30 min prior to breakfast

- **Lubiprostone / Amitiza**
  - 24 mcg BID
  - Not to be used with methadone (will not work)

- **Naloxegol / Movantik for OIC**
  - 25 mg daily (12.5 mg available)
  - Could cause opioid withdrawal

- **Methylnaltrexone / Relistor**
  - 450mg (150 mg tablet x 3) daily 30 min prior to breakfast OR 12 mg SQ
  - Expected therapeutic response in 1-4 hours
  - Could cause opioid withdrawal
Psychosocial triggers

- Educate the patient about chronic pain
  - Wonderful pt education video about chronic pain
    - https://www.youtube.com/watch?v=C_3phB93rvl
  - When patients understand their symptoms they have less anxiety and therefore less pain and less overutilization of narcotics and healthcare resources
- Depression / anxiety always a contributor to QOL
- Insomnia is a major trigger to myofascial pain
- Educate family members so they can be supportive of positive behaviors
Pain / Flare Management

- **Targeted Step Therapy and**
- **Treat each Pain Generator**

**Behavioral TX**
- Heat / ice
- Rest / therapeutic ex
- Mindfulness'
- Diet / bowel TX

**Adjunctive Pharm TX**
- Muscle relax
- Bladder analgesics
- Topical TX

**Rescue Interventions**
- TP injects
- Intravesical TX
- Steroid bolus

**Advanced Rescues**
- Epidural Pain Holiday
- Neuromodulation
- Narcotics (?)

**Narcotic use associated with greater likelihood of central sensitization via glial cell upregulation**

Pts w/ centralized pain less likely to improve with use of narcotics

Hutchinson MR, 2007
Watkins LR, 2005
Educate the patient about her chronic pain
Make her part of the team
Target every component of her pain