PELVIC PAIN : Gastroenterological Conditions

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• **Introduction**

• **GI etiology in Pelvic Pain**
  – Inflammatory bowel disease
  – Diverticular colitis
  – Colon cancer
  – Chronic intestinal pseudo-obstruction
  – Chronic constipation
  – Celiac disease
  – **Functional GI Disorders – Irritable Bowel Syndrome**

• **Summary**
• Introduction

• GI etiology in Chronic Pelvic Pain Syndrome
  – Inflammatory bowel disease
  – Diverticular colitis
  – Colon cancer
  – Chronic intestinal pseudo-obstruction
  – Chronic constipation
  – Celiac disease

• Functional GI Disorders – IBS

• Summary
Chronic Pelvic Pain & IBS

• Chronic pelvic pain (CPP)
  – One of the most common conditions
    • in women of reproductive age (15 % - 40 %)
  – One of the the most common diagnosis
    • in primary care, using the definition:
      – «continuous or episodic (non-cyclic) pain located below the umbilicus, lasting for at least 6 months»
  – Often associated with IBS
    • The similarity has been noted in terms of
      – the symptoms, psychosocial factors, health care utilization
**Chronic Pelvic Pain & IBS**

- **IBS**
  - associated with common gynecologic problems
    - endometriosis, dyspareunia, and dysmenorrhea
  - ~ 50% of women who presented with abdominal pain to the gynecological clinics
    - have symptoms compatible with a diagnosis of IBS
  - ~ 50% of women having diagnostic laparoscopy for CPP
    - were found to have symptoms of IBS
FGID - Conceptual Model

Early Life
- Genetics
- Environment

Psychosocial Factors
- Life stress
- Psychologic state
- Coping
- Social support

Physiology
- Motility
- Sensation
- Inflammation
- Altered bacterial flora

Brain CNS

Gut ENS

Psychosocial factors are associated with CPP and IBS

FGID
- Symptoms
- Behavior

Outcome
- Medications
- MD visits
- Daily function
- Quality of life
Early life experiences, adult stressors (e.g. divorce or bereavement), lack of social support, and other social learning experiences have been reported to be associated with IBS.

FGID - Conceptual Model

Early Life
- Genetics
- Environment

Psychosocial Factors
- Life stress
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- Social support

Brain
CNS

Gut
ENS

Physiology
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Outcome
- Medications
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FGID
- Symptoms
- Behavior
• **IBS and chronic pelvic pain (CPP)**
  
  – two separate disease entities?

  – part of the same syndrome with different manifestations?

• **In a subset of patients with pelvic pain, there is likely to be a common underlying process that explains the link to IBS and / or FGID**
Etiology

- Relative frequency of the various causes of CPP is influenced by
  - the local patient population
  - referral patterns, and
  - specialty focus of the practice

- Population-based study
  - Gastrointestinal and urologic problems more common than gynecological conditions in women with CPP
  - Gynecologic conditions accounted for ~ 20% of cases of CPP

Etiology

Gynecologic

- Endometriosis*
- Leiomyoma*
- Adenomyosis*
- Recurrent ovarian cysts
- Hydrosalpinx
- Ovarian remnant syndrome*
- Pelvic inflammatory disease*
- Pelvic adhesive disease
- Post-tubal ligation pain syndrome
## Etiology

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<td>Interstitial cystitis/painful bladder syndrome*</td>
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<td>Radiation cystitis*</td>
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<td>Bladder cancer*</td>
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<td>Urethral syndrome</td>
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<tr>
<td>Recurrent cystitis</td>
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<tr>
<td>Recurrent/chronic urolithiasis</td>
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Etiology

Gynecologic

- Urologic

Musculoskeletal

- Abdominal wall myofascial pain (including trigger points)*
- Pelvic floor tension myalgia*
- Fibromyalgia*
- Coccygodynia*
- Piriformis syndrome
Etiology

Gynecologic
- Urologic
  - Musculoskeletal

Neurologic
- Abdominal wall cutaneous nerve entrapment (ilioinguinal and iliohypogastric)*
- Pudendal neuralgia
- Central sensitization of pain*
Etiology

Gynecologic

Urologic

Musculoskeletal

Neurologic

Vascular

- Vulvar varicosities
- Pelvic congestion syndrome
### Etiology

<table>
<thead>
<tr>
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<tr>
<td>Irritable bowel syndrome*</td>
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<td>Inflammatory bowel disease*</td>
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<td>Chronic constipation*</td>
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<td>Colorectal carcinoma*</td>
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<td>Celiac disease</td>
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<td>Abdominal/pelvic hernias</td>
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Etiology

Gynecologic

Urologic

Musculoskeletal

Neurologic

Vascular

Gastroenterologic

- Irritable bowel syndrome*
- Inflammatory bowel disease*
- Chronic constipation*
- Colorectal carcinoma*
- Celiac disease
Inflammatory bowel disease

• **Crohn’s disease**
  – Fatigue, diarrhea with crampy abdominal pain
  – weight loss and fever
  – with or without gross bleeding
  – The transmural nature of the process leads to fibrotic strictures
    • often lead to repeated episodes of small bowel or less commonly colonic obstruction

• **Ulcerative colitis**
  – as well as other causes of colitis, have a similar presentation
  – however, rectal bleeding is more common
Diverticulosis / Diverticulitis

• Patients with diverticular disease
  – develop a segmental colitis most commonly in the sigmoid

• The endoscopic and histologic features vary
  – From mild inflammatory changes with submucosal hemorrhages (peridiverticular red spots on colonoscopy)
  – to florid, chronic active inflammation resembling (histologically and endoscopically) inflammatory bowel disease.

• The pathogenesis is incompletely understood
  – The cause may be multifactorial, related to mucosal prolapse, fecal stasis, or localized ischemia.
Others

- Colon cancer
  - hematochezia or melena,
  - abdominal pain, and/or
  - a change in bowel habits

- Chronic intestinal pseudo-obstruction
  - Distension (75%),
  - abdominal pain (58%),
  - nausea (49%),
  - constipation (48%),
  - heartburn / regurgitation (46%),
  - fullness (44%),
  - epigastric pain/burning (34%),
  - early satiety (37%), and
  - vomiting (36%)

- Chronic constipation
  - Although common in women
  - chronic pain IS NOT a common symptom

- Celiac disease (or sprue)
  - Caused by an immune reaction to gluten
  - Impaired absorption and digestion by the small intestine
  - recurrent diarrhea and weight loss, but chronic pelvic pain may be the presenting complaint
Irritable Bowel Syndrome

- **GI pain syndrome**
  - chronic or intermittent abdominal pain
  - associated with bowel function
  - absence of any organic cause

- **Most patients also have bowel dysfunction**
  - ~10% in general population seems to have IBS
  - women are diagnosed x2 as often as men

- **In women with CPP in primary care populations**
  - IBS is probably the most common diagnosis
  - occurring in up to 35 percent of these women

- **However, in many women with CPP and IBS**
  - IBS has not been diagnosed or treated

- **Diagnosis is based upon specific criteria**
  - Physical examination is generally unremarkable
Irritable Bowel Syndrome

- Only a small percentage of affected patients seek medical attention
- ~ 40% percent of who meet diagnostic criteria for IBS
  - do not have a formal diagnosis
- Is associated with
  - increased health care costs and
  - is a cause of work absenteeism
- Accounts for 25-50% of all referrals to gastroenterologists
Epidemiology

- **Meta-analysis**
  - 8 international studies, the pooled prevalence
  - 11 %, with wide variation by geographic region

- **The prevalence**
  - 25 % percent lower in > 50 years vs <50 years

- **The overall prevalence**
  - Higher in women (14 %) as compared with men (9 %)

- **Women**
  - more likely to have IBS-C as compared with men
Prevalens

Türkiye %12-20*

A.B.D. %10-15

İsveç %13

UK %22

Danimarca %15

Hollanda %9

Çin %23

Nigerya %30

Singapur %4

Japonya %25

Australya %12

Yeni Zelanda %17

* Özden A. Akademik Gastroenteroloji Dergisi, 2006; 5 (1): 4-15
Associated conditions

- Fibromyalgia
- Chronic fatigue syndrome
  - aka, systemic exertion intolerance disease
- Gastroesophageal reflux disease
- Functional dyspepsia
- Non-cardiac chest pain
- Psychiatric disorders
  - major depression
  - anxiety
  - somatization
Clinical Manifestations

• Chronic abdominal pain

• Alternating bowel habits
  – Diarrhea
  – Constipation
Chronic abdominal pain

• **Usually described as a cramping sensation**
  – with variable intensity and periodic exacerbations

• **Location and character can vary widely**

• **Severity may range from mild to severe**

• **Frequently related to defecation**
  – In some, relieved with defecation
  – Some report worsening with defecation

• **Emotional stress and meals**
  – may exacerbate the pain
• Abdominal bloating / increased gas production
  – is also commonly reported
  – in the form of flatulence or belching
Altered Bowel Habits / Diarrhea

- **Frequent loose stools**
  - small to moderate volume

- **Generally when awake**
  - most often in the morning or after meals

- **Most are preceded by**
  - low abdomen, crampy pain
  - urgency
  - incomplete evacuation
  - tenesmus

- **Mucus with stools**
  - ~ 1/2 of all patients

- **Unrelated symptoms**
  - large volume diarrhea
  - bloody stools,
  - nocturnal diarrhea
  - greasy stools
Altered Bowel Habits / Constipation

- Stools are often hard
- Described as pellet-shaped
- Patients also experience tenesmus
  - even when the rectum is empty
Diagnosis

• **IBS should be suspected in patients with**
  – Chronic abdominal pain and
  – altered bowel habits (constipation and/or diarrhea)

• **A clinical diagnosis requires**
  – fulfillment of symptom-based diagnostic criteria
  – a limited evaluation to exclude
    • underlying organic disease
Diagnostic criteria

- **Symptom-based criteria**
  - Rome IV criteria - 2016
    - The most widely used

**Rome IV Criteria**

Recurrent abdominal pain, on average of at least 1 day per week in the last 3 months, associated with two or more of the following:

- Related to defecation
- Associated with a change in stool frequency
- Associated with a change in stool form (appearance)

Criteria should be fulfilled for the last 3 months with symptom onset over six months prior to diagnosis.
Diagnostic criteria

• Symptom-based criteria
  – Rome IV criteria
    • The most widely used
  – The Manning criteria
    • include relief of pain with bowel movements
    • looser and more frequent stools with onset of pain,
    • passage of mucus
    • sense of incomplete emptying
  – The Kruis criteria
    • less frequently used in clinical practice
Diagnostic criteria

- No symptom-based criteria have ideal accuracy

- Rome IV criteria
  - IBS is defined as recurrent abdominal pain
  - at least one day per week in the last three months,
  - associated with two or more of the following criteria
    - Related to defecation
    - Associated with a change in stool frequency
    - Associated with a change in stool form (appearance)
IBS Subtypes

• **IBS with predominant constipation**
  – abnormal bowel movements are usually constipation

• **IBS with predominant diarrhea**
  – abnormal bowel movements are usually diarrhea

• **IBS with mixed bowel habits**
  – abnormal bowel movements are both constipation and diarrhea
  – >25% constipation and >25% diarrhea

• **IBS unclassified**
  – patients meet diagnostic criteria for IBS
  – cannot be accurately categorized into one of the three subtypes
Evaluation – History and physical

• **A thorough history**
  – particular attention to symptoms for organic disease
  – exposure to medications that can cause similar symptoms
  – an acute viral / bacterial gastroenteritis

• **Family history assessment**
  – inflammatory bowel disease
  – colorectal cancer or celiac disease

• **Physical examination is usually normal**
  – mild abdominal tenderness to palpation
  – rectal examination (in pts w/ constipation)
    • useful in identifying dyssynergic defecation
**Laboratory testing**

- **There is no definitive diagnostic test for IBS**
  - purpose is to exclude an alternative diagnosis
- **In all patients with suspected IBS**
  - complete blood count
- **In patients with diarrhea**
  - C-reactive protein and/or fecal calprotectin
  - serologic testing for celiac disease
    - fecal calprotectin level of <50 mcg/g
    - a CRP level of ≤0.5
    - precludes ≤1 percent probability of IBD
Other testing

• **Data are conflicting for testing for celiac disease**
  – meta-analysis of 14 studies (4204 pts, 2278 IBS)
    • only 4 percent of patients had celiac disease
  – prevalence of biopsy proven celiac disease
    • similar to controls

• **Age-appropriate colorectal cancer screening**

• **In IBS-C patients**
  – abdominal X-ray
  – anorectal manometry / balloon expulsion testing
Alarm features

• **Presence of concerning features**
  – may identify patients likely to have an organic disease
  – however, most will have a negative evaluation

• **Alarm features include**
  – Age of onset >50 years
  – Rectal bleeding or melena
  – Nocturnal diarrhea
  – Progressive abdominal pain
  – Unexplained weight loss
  – Laboratory testing (iron deficiency, high CRP or fecal calprotectin)
  – Family history of IBD or colorectal cancer
Additional testing

- **In patients with no alarm features**
  - No additional testing beyond initial evaluation needed
  - This approach rules out organic disease in >95%

- **In patients with alarm features**
  - additional testing to exclude other causes of similar symptoms
  - based on clinical presentation
  - endoscopic testing in all pts and imaging in selected cases
**Additional testing**

- **In pts with diarrhea**
  - Colonoscopy for the presence of IBD
  - biopsies to exclude microscopic colitis

- **Colonic imaging (eg, abdominal CT scan)**
  - in a clinical suspicion for a structural lesion
  - modality is guided by the clinical presentation

**For example**  In a postmenopausal woman with a recent onset of pain, bloating, early satiety and constipation

  - pelvic imaging with an ultrasound and/or abdominal CT scan
  - Colonoscopy if > 50 years of age
Differential diagnosis

• In patients with IBS-D
  – celiac disease
  – microscopic colitis,
  – small intestinal bacterial overgrowth
  – inflammatory bowel disease

• Constipation may be secondary to
  – organic disease
  – dyssynergic defecation
  – slow colonic transit

• Some of these are excluded during evaluation
  – others require additional diagnostic testing
  – need only be performed in selected patients with alarm features
Disease course

• Most patients have chronic symptoms
• Symptoms vary in severity over time

Systematic review (clinic-based IBS patients)
– Only 2 - 5 % diagnosed with an alternate GI disease
– symptoms unchanged (30-50 %)
– symptoms progressed (2-8 %)
– symptoms improved (12-38 %)
– a change in IBS subtype over time was experienced
  • The most frequent change
  • from predominant IBS-C or -D to IBS-M
Recurrent abdominal pain associated with altered bowel frequency & appearance

Medical – psychosocial history, physical examination

Alarm symptoms

Screening tests*

Any abnormality?

Irritable Bowel Syndrome (IBS)

Stool Consistency (Bristol scale)

IBS - C

IBS - M

IBS - D

Required tests (e.g. Gastroscopy & colonoscopy blood and stool tests, duodenal biopsy...)

Any abnormality?

Celiac disease, giardiasis, IBH, microscopic colitis, small bowel bacterial overgrowth, colorectal neoplasia

Alarm symptoms

Any abnormality?

Yes