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 (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
• 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
Psychosocial factors are associated with CPP and IBS.
FGID - Conceptual Model

- Early life experiences (e.g. abuse),
- adult stressors (e.g. divorce or bereavement),
- lack of social support,
- other social learning experiences have been reported to be associated with IBS.
CPP vs IBS

• 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

Pain?

• **Any one disorder may be the cause of CPP**
  
  – but, pain can be the end result of several medical conditions, with each contributing to the generation of pain
  
  – e.g. A woman may have
  
  • endometriosis, interstitial cystitis, emotional stress, and
  
  • pelvic floor pain related to muscular spasm
  
  • Women with > 1 medical condition tend to have greater pain than women with only 1 disorder


• **In some, chronic pain can be the only diagnosis**
  
  – a source of frustration for both the patient and clinician
Etiology

Gynecologic

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

**Gynecologic**

**Urologic**

- Interstitial cystitis/painful bladder syndrome*
- Radiation cystitis*
- Bladder cancer*
- Urethral syndrome
- Recurrent cystitis
- Recurrent/chronic urolithiasis
### 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

Gastroenterologic

- Irritable bowel syndrome*
- Inflammatory bowel disease*
- Chronic constipation*
- Colorectal carcinoma*
- Celiac disease
- Abdominal/pelvic hernias
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
Children & adolescents

- **Functional abdominal pain**
  - the most common cause of chronic abdominal pain
  - a diagnosis of exclusion
    - after anatomic, infectious, inflammatory, and metabolic causes of abdominal pain have been ruled out

- **Specific functional abdominal pain disorders**
  - functional dyspepsia
  - IBS
  - abdominal migraine
  - functional abdominal pain syndrome
Irritable Bowel Syndrome

• A functional disorder of the gastrointestinal tract
  – characterized by chronic abdominal pain and
  – altered bowel habits
  – only a small percentage of affected pts 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
Peru %18
İsveç %13
UK %22
Danimarka %15
Hollanda %9
Nigerya %30
Singapur %4
Australya %12
Yeni Zelanda %17
Türkiye %12-20*
A.B.D. %10-15
Çin %23
Japonya %25

* 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.
Rome Publications

1989
1st IBS criteria
1st FGID classification

1990
1992-1995
5 Rome I publications

1994
Rome I Book
Gut Supplement

1999
Rome II Book
Degnon Assoc.

2000
Rome II Book
Degnon Assoc.

2003
Rome Foundation

2006
Gastroenterology Supplement
+ Rome III Book
Degnon Assoc.
Diagnostic criteria

• Symptom-based criteria
  – Rome IV criteria
    • The most widely used
  – The Manning criteria
Diagnostic criteria

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

<table>
<thead>
<tr>
<th>Pain relieved with defecation</th>
</tr>
</thead>
<tbody>
<tr>
<td>More frequent stools at the onset of pain</td>
</tr>
<tr>
<td>Looser stools at the onset of pain</td>
</tr>
<tr>
<td>Visible abdominal distention</td>
</tr>
<tr>
<td>Passage of mucus</td>
</tr>
<tr>
<td>Sensation of incomplete evacuation</td>
</tr>
</tbody>
</table>
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
• **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 (e.g., 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)
  - with variable long term follow-up (6 mo to 6 years)
  - 2 - 5% diagnosed with an alternate GI disease
  - symptoms unchanged (30-50%) or 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)

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 No

Any abnormality? Yes

No