

Clinical Osteopathically Integrated Learning Scenario

Patient with Irritable Bowel Syndrome

Description of COIL

This Clinical Osteopathically Integrated Learning (COIL) scenario focuses primarily on the palpatory evaluation and supportive osteopathic manipulative treatment of a patient with Irritable Bowel Syndrome.

The COIL is divided into two sections:

Section One:

The **Roundtable Discussion Workshop** includes a discussion and evaluation of the patient's case history, diagnosis, pathophysiology, osteopathic principles involved, functional anatomy, treatment options, contraindications and (if time permits) a demonstration of manipulative treatment techniques that are applicable for this patient.

Section Two:

The **Patient-based Application Workshop** is the supervised application of manipulative treatment techniques for a patient with this diagnosis. It is designed to evaluate the student's/physician's diagnostic and psychomotor skills when providing an osteopathic manipulative treatment for an actual (or simulated) patient.

5.2

If time permits, the instructor may deliver this entire two-section program at one time. However, it is recommended that the program be divided into its two sections. Ideally, the sections should be separated by a number of days. This provides time for the student or physician to review and practice appropriate techniques before completing the second section. If an actual patient is not available for the second section, a simulated patient may be used and the psychomotor skills of the student or physician evaluated.

Section One: Roundtable Discussion Workshop

I. Description

This is a round-table type presentation and discussion regarding the osteopathic approach to the treatment of a patient with IBS.

II. Cognitive Components

A. Case Presentation

A 60-year-old female presents with recurrent episodes of abdominal cramping and pain, and alternating diarrhea and constipation over the past six months. The episodes occur approximately two to three per week with mid-abdominal, periumbilical with non-radiation pain. The cramping increase roughly 30 minutes after a meal and is localized to lower back near the upper poles of the SI joint. The patient relays that her defecation is urgent and “feverish”, and the stools sometimes look “funny and slimy” with a foul smell. The pain is improved after defecation and with taking an NSAID. The patient reports that dairy products exacerbate the pain and diarrhea.

5.2

The patient was diagnosed approximately ten years ago with hypothyroidism, diabetes hypertension, and coronary artery disease while being treated for a “mini-stroke”. The patient has a tonsillectomy in her 20’s, appendectomy and total abdominal hysterectomy without oophorectomy for endometriosis in her 30’s. The patient has no known allergies and is currently taking ASA, Lisinopril, Glucophage, Glipizide, Lipitor and Synthroid.

Social history reveals ½ a-pack a day smoking habit but the patient quit ten years ago, No alcohol use, or nonprescription drug use. The patient’s mother died from a stroke in her 80’s, while her father passed in his 50’s from complications of alcoholism. The patient has one younger sister, who has a history of “colitis”.

Physical Examination:

Vital Signs: Temperature, 98.8°; Respiration Rate, 16; Blood Pressure, 125/61; ; Pulse, 87, Height, 5’5”; Weight, 170 lbs

General: Alert and oriented, nervous/ stressed, skin Anicteric

Head:

Eyes: Pupils equal, round, reactive to light and accommodation; extraocular movements intact; Blurred vision secondary cataracts

Ears: Tympanic membranes intact; no fluid

Nose: Turbinate pink; minimal mucus

Throat: Red oropharynx without any exudates; no oral ulcers; no thyromegaly; no lymphadenopathy.

Cardiac: Without murmur, S3 or S4.

Lung: LCTAB

Abdomen: BS x 4, soft, non-tender, slightly distended, no hepatosplenomegaly, no mass, no hernia, no bruits.

Extremities: No edema, no cyanosis, no clubbing.

Neuro: A/O x 3 NAD, CN II-XII intact.

Rectal: Non-thrombosed ext hemorrhoid, no mass, no fecal impaction

Diagnostics:

Labs pending:

- CBC
- CMP
- Serum calcium
- ESR/ CRP
- Endomesial ab/glutin ab
- Thyroid function

Labs:

- Hemocult: Positive
- Ova and parasites: Negative
- Clostridium difficile: Negative

Radiology:

- Anal manometry
- EGD
- Upper GI series
- Double-Contrast Barium Enema
- Abdominal CT
- Colonoscopy

Osteopathic Structural Examination:

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B. Pathophysiology

1. IBS is one of the most common functional disorders seen in clinical practices, and most treated gastrointestinal (GI) disorders. IBS affect both male and female but is predominate in woman, with flare ups common during the pre/menstrual period. There are four possible IBS subtypes based on the predominant stool pattern: IBS with constipation (IBS-C), IBS with diarrhea (IBS-D), mixed IBS (IBS-M) and un-subtyped IBS.
2. IBS has a multifaceted and complex pathophysiology. While no unifying mechanism is identified it is viewed as a biopsychosocial disorder resulting from an interaction among a number of factors including: altered GI motility, visceral hyperalgesia, psychopathology, neurotransmitter imbalance, and infection/inflammation.
3. Altered GI motility:
 - a. Loss of migrating motor complex as well as discrete, clustered contraction and prolonged propagated contractions- can either increase or decrease transit time. Patients with diarrhea-predominant IBS have reported rapid small bowel and colonic transit times. Patients with constipation-predominant IBS report abnormal function of the pelvic floor and anal sphincter muscles.
 - b. Additional abnormal motor dysfunction of the passage and handling of flatulence can also factor in.
 - c. The smooth muscles the lining the small intestines and the colon are overly relaxed.
4. Visceral hyperalgesia
 - a. Studies confirm that patients with IBS have lower colonic pain thresholds then non-IBS patients and that pain correlates to the severity of symptoms.
 - b. Rectosigmoid and small bowel balloon inflation produce pain at lower volumes than controls.
3. Psychopathology
 - a. Patients with a psychiatric disorders diagnosis (depression, anxiety, and hypochondriasis) have more frequent and severe IBS symptoms and episodes.
 - b. Patients with a history of physical, sexual, or emotional abuse have greater severity of symptoms.
 - c. Axis I psychiatric disorders coincides with onset of GI symptoms in 77% patients. Often the Axis I diagnosis, predate the IBS symptom onset.
 - d. Stress or a life altering event are likely to precipitate an IBS episode
5. Neurotransmitter Imbalance
 - a. 95% of 5-HT which is instrumental activating nausea and vomiting from the CNS, is located in the GI.
 - b. A correlation between the levels of serotonin and either diarrhea (higher) or constipation (lower) has been established.
 - c. Abnormal N-methyl-d-aspartate glutamate levels leads to an increased NO.

4. Infection/Inflammation
 - a. Protozoan parasites such as *Blastocystis hominis* and *Dientamoeba fragilis*, chronic infections can increase IBS symptoms.
 - b. Increased lymphocytes in myenteric plexus- with some degeneration.

C. Functional Anatomy

Includes knowledge of structure and physiology necessary to properly carry out the osteopathic manipulative treatment support.

1. Small Intestines
2. Large Intestines
3. Studies have shown IBS patients have an increase of colonic inflammatory cells, plasma cells in the rectum and sigmoid colon. As well as goblet cells in the transverse, descending, and sigmoid colon and rectum and mast cells in the terminal ileum, cecum, and appendix.
4. In contrast, IBS patient have an decreased number of eosionphils cells.

D. Goals for Osteopathic Manipulative Management

Includes a review of treatment pearls, a general plan for manipulative treatment of this patient and a discussion of treatment options, contraindications and plans for follow-up evaluation and treatment.

1. Rib raising
 - a. Supine paraspinal inhibition decreases hypersympathetic tone to the bowel
 - b. Couple with ST to thoracolumbar area
2. Collateral sympathetic ganglia
 - a. Inhibitory technique for the sympathetics
 - b. Reduce palpable tension over these area with pressure, facilitate with pt respiration
3. Chapman's reflexes
 - a. Anterior intercostal spaces 6-10 b/l
 - b. Lateral thigh b/l along distribution of IT band
4. SI joint
 - a. SI joint encompasses S1-3; IBS pathology may be related to somatic dysfunction dt sacral torsion/shear/flexion/extesion or by SI dysfunction
 - b. Anterior pressure to sacrum while rocking pt prone on table
5. OA/AA/C2/condylar decompression
 - a. Check for tissue changes b/l and if these correspond to localization of ss or pain
6. Thoracolumbar ST
 - a. Prepares areas of diaphragm attachment for fascial redoming
7. Thoracic inlet release
8. Ventral abdominal techniques- myofascial release

Treatment Recommendations

1. Fiber supplementation
 - a. Improve ss of constipation/diarrhea
2. Pycarbophil compounds (citrucel, fibercon)
 - a. Decrease flatulence
3. Increased water intake in pts cc: constipation
4. Caffeine avoidance
 - a. Lowers anxiety, decrease symptomatology

Pharmacological treatment

1. Rifaximin
 - a. Broad spectrum, nonabsorbable for enterics (g+,-, an/aeroebes)
2. Anticholinergics (dicyclomine- Bentyl)
 - a. Inhibit sm depolarization; decrease sensation of urgency
3. Antidiarrheals (diphenoxylate hydrochloride- Lomotil; loperamide- Imodium)
 - a. Nonabsorbable opioids - prolong GI time, and decrease secretion, and reduce visceral nociception via afferent inhibition
4. TCAs (imipramine; amitryptaline- Elavil)
 - a. Antidepressant and analgesic properties
5. Prokinetics (Tegaserod; Propulsid)
 - a. Tegaserod d/c by FDA in 2007 dt increased risk of angina, MI, stroke
6. Serotonin (5-HT₃) r antagonist (alosetron- Lotronex)
 - a. Decr bowel hypersensitivity, hyperactivity
7. Chloride channel activators (lubiprostone- Amitiza)
8. Bulk forming laxatives (methylcellulose- Citrucel; psyllium- Metamucil)
 - a. Facilitate passage of intestinal contents and peristalsis

E. Contraindications and Cautions Regarding Treatment

See contraindications to treatment, Foundations, pp. 1015-1024.

1. IBS is a chronic condition. Episodes will continue throughout patients lifetime.
2. Review complete medication history to avoid interaction.

F. Instructor's Notes

Personal clinical pearls and lessons learned from previous COIL presentations.

- 1.

III. Psychomotor Components

If time permits, this is carried out on a simulated patient model.

1. Practice palpatory diagnosis. See techniques under Section D above. Diagnoses procedures include...XXXX.
2. Demonstrate key treatment techniques in the body regions involved. This includes XXXXX
3. Evaluate the plan for treating the patient in the appropriate position, localization of gentle forces and activation.

IV. References

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V. V. Examination Questions

This involves answering multiple choice questions regarding the treatment of a (denotes answer)*

1. Which of the following cranial dysfunctions is most commonly found in patients with asthma?
F. A.
G.

Section Two: Patient-Based Application Workshop

I. Description

This is the practical application of osteopathic treatment techniques to support the patient with IBS.

II. Psychomotor Components

(Refer to Section One for regions of the body that are involved.)

1. Examination of the patient using TART including postural screen, palpation, segmental motion testing, and diagnosis of somatic dysfunction.
2. Application of philosophy and treatment technique.
3. Reevaluation of the patient after treatment is completed to assess result. If a mock patient is used then the student/physician should verbalize length of treatment and future treatment goals.

III. Cognitive Components

1. Documentation in the medical record.
2. Post-treatment discussion.

Note: It is recommended to use the standardized outpatient form included in each of these chapters for documentation.

Physician: _____ Date: _____

Title: Resident (Specialty) _____

Intern OMS III OMS IV

Critical Actions Evaluation Checklist of Osteopathic Principals

CRITICAL ACTION	COMPLETED		COMMENTS
	Yes	No	
Become familiar with the patient's history physical examination findings, laboratory and other diagnostic findings.			
Perform an osteopathic structural examination.			
Determine significant areas of somatic dysfunction.			
Determine body region(s) to be treated with OMT.			
Apply OMT to at least the body region determined to be the most in need of treatment at present time.			
Treat other significant somatic dysfunctions if feasible.			
Document treatment and immediately observable effects.			

Trainer: _____