

Facilitator's Guide

Section I: OMM Case Presentation. Prior to the next OMM session Residents should read the case below and be prepared to discuss the questions in Section II

Case Presentation

Chief Complaint: "I am having diarrhea that won't stop."

Patient History: The patient is a 53 year old Caucasian man who presents to the ER with mid-abdomen pains and diarrhea that have been present over the past year. His current pain began approximately 2 hours ago, approximately 1 hour after eating a "midnight snack", and is located in the middle of his abdomen, inferior to his sternum. He reports that the pain is a constant dull ache and rates it as a steady 3 out of 10 on a 1-10 pain scale. Coughing seems to make the pain worse but not unbearable. Sitting forward will sometimes help relieve some pain. In addition, he has had mild nausea since the pain began. He reports that off & on over the past year he has experienced these same symptoms. Initially, the pain was a 6-7 out of 10 on a 1-10 pain scale, but has decreased in intensity since the episodes began. He reports that he has had diarrhea daily for approximately a year, and that it has a strong malodorous smell. Occasionally, he experiences a slight fever with the pain, with the highest temperature being 100.3 F, as reported by his wife. He states that the only reason he is here is because his wife "wouldn't stop harpin' on me."

Family History: Father (deceased, 61) – CAD, Lung CA. Mother (deceased, 74) – Stroke. Brother (50) – HTN, CAD. Sister (49) – healthy.

Social History: Patient works on and off in construction. He is married with 3 children. 40 pack/year tobacco history. Drinks 7-12 beers/day. Denies illicit drug use.

Trauma History:

Allergies:

Lab Tests & Results:

Meds:

PMH: Hypertension, EtOH abuse, diabetic x 5 yrs (oral hypoglycemics)

PSH: Appendectomy at age 17.

Review of Systems

Constitutional: Pt reports ~20 lb. unintentional weight loss over last year and general decrease in energy. Denies fever, chills and night sweats.

Skin: Denies rashes, irritations, itching, changes in pigmentation, moisture, or texture, or sensitivity to environmental allergies. No increases or decreases in hair growth or changes in nails.

Blood/Lymph/Endocrine: Denies anemia, bleeding tendency, previous transfusions/reactions. Denies local or general lymph node enlargement or tenderness. Denies polydipsia, asthenia, hormone therapy, intolerance to heat or cold. Reports concern over decreasing testicle size.

HEENT: Reports occasional headaches (tension-type). Denies vertigo, lightheadedness, changes in vision, nose bleeds, dentures, gingival bleeding, neck stiffness, or neck/thyroid masses.

Cardiovascular: Denies precordial and substernal pain, palpitations, syncope, dyspnea on exertion, orthopnea, nocturnal paroxysmal dyspnea, edema, cyanosis, varicosities, phlebitis or claudication.

Pulmonary: Admits to constant “smoker’s cough.” Denies SOB, wheezing, stridor, hemoptysis, infections, or TB/TB exposures.

GI: Positive for decrease in appetite. Pain increased with eating large meals. Mild dyspepsia. Some nausea with abdominal pain. Denies vomiting, hematemesis, jaundice, and constipation. Describes stools as clay-colored, greasy, and malodorous. Denies hemorrhoids.

UG: Denies urinary urgency or frequency, dysuria, nocturia, hematuria, polyuria, oliguria, unusual color of urine, stones, infections, hesitancy, change in stream, or problems with retention/incontinence. Denies changes in libido or any penile discharge.

GYN: N/A

Musculoskeletal: Denies pain, swelling, redness or heat of muscles or joints. Denies limitation of motion, muscular weakness, atrophy, or cramps.

Neurologic: Denies convulsions, paralyzes, tremor. Reports occasional balance problems, paresthesias in toes. Denies difficulties with memory or speech.

Psychiatric: Denies psychiatric problems/care, hallucinations, anxiety, depression.

Physical Exam

Vital signs: Temp. 99.2 F, BP 152/96, RR 22, P 90

General: Patient is in mild distress. Body habitus is thin with temporal wasting.

HEENT-

Head: Atraumatic, normocephalic,

Eyes: Conjunctiva clear; pupils 3 mm in size, EOMI, PERLLA

Ears: Tympanic membranes are pearly gray; no TM inflammation or perforation.

Nose: Normal appearing nasal turbinates; septum midline

Throat: No pharyngeal erythema; there are no pustules, ulcers or exudate.

Face: Symmetric; no maxillary or frontal sinus tenderness

Neck: Supple, no anterior or posterior cervical lymphadenopathy; thyroid is not palpable; trachea is midline; no JVD

Heart: Regular rhythm; normal S1 and S2; no S3 or S4; no murmurs, gallops or rubs.

Lungs: Scattered rhonchi.

Abdomen: Tenderness to palpation over the mid-abdomen, inferior to the sternum, and slightly to the left in the left upper quadrant. Somewhat rigid in these same areas. Non-distended. BS present but hypoactive.

Extremities: Two ulcerations located on the plantar aspect of the left foot and one ulceration located on the plantar aspect of the right foot, in early stages of healing. No clubbing or cyanosis. Increased erythema in all lower extremity digits. Femoral and popliteal pulse 2+ bilaterally. Dorsalis pedis and posterior tibialis pulses 1+ bilaterally. Decreased hair growth on toes. All nails show yellowing and thickening, suggesting onychomycosis.

OMM Focused Structural Exam

Bogginess at the OA, C1, and C2 tissues, left more than right. OA FSrRI, C2 RISI, C5 FSrSI.

Reduced thoracic kyphosis and lumbar lordosis. He has bilateral paravertebral spasm, especially T5-9.

Articular restriction is greatest T6-9. T7 ESrRr, T11 FSIRI.

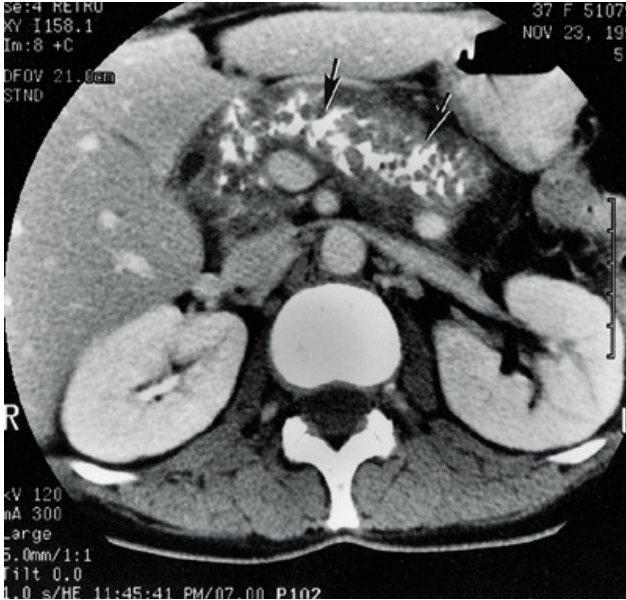
Tissue texture changes in 7th intercostal space on the right at the costochondral junction and over the celiac ganglion.

Thoracic inlet was ESIRI. The thorax has general restriction to exhalation. The diaphragm was extremely tense and depressed with reduced excursion.

Assessment:

Neuro: Positive Romberg's test. DTRs 2/4 bilaterally in all extremities. Decreased sensation in bilateral feet, most severe at digits and decreasing in intensity proximally.

GU: Bilaterally descended testes with atrophic changes.



Section II: Focus of the Case (approximate time 20–30 minutes)

Discussion Questions

Teaching Points

<p>1. Propose an appropriate differential diagnosis / assessment</p> <p>1. continued</p>	<p>Differential Diagnoses:</p> <ul style="list-style-type: none"> Pancreatitis – acute vs. chronic Gastric cancer Cholangitis Cholecystitis Cholelithiasis Gastritis, chronic Peptic ulcer disease GERD Crohn's Disease Mesenteric artery ischemia Liver failure Pancreatic pseudocyst Paraneoplastic syndrome
<p>2. What is your final diagnosis?</p>	<ul style="list-style-type: none"> • Primary Diagnosis: Chronic Pancreatitis • Secondary Diagnosis: Steatorrhea, Alcoholism, Hypertension • Somatic dysfunction related to diagnosis: thoracic, cervical, diaphragm

<p>3. How do you explain the current structural findings in the context of this case?</p> <ul style="list-style-type: none"> • Are any relevant structural findings missing? • What would you do differently? • Why? 	<p>Sympathetic viscerosomatic reflexes for the pancreas are found at T5-9 bilaterally while the parasympathetic viscerosomatic reflexes are found between the occiput and C2 bilaterally. In the more chronic cases of pancreatitis tend put the thoracic spine into a relative extension through the T5-9 segments.</p> <p>Further visceral and viscerosomatic changes in the form of Chapman's reflexes and celiac ganglion tension are found in the right 7th intercostal space and midline several cm beneath the xiphoid, respectively.</p> <p>Considering his comorbid condition of EtOH abuse, it is likely there are visceral changes related to his liver and possibly other GI structures. These are found in the same distribution as the above mentioned regions.</p>
<p>4. What pathophysiology & functional anatomy knowledge is pertinent for diagnosing/treating this patient</p>	<p>The pancreas is not encapsulated & therefore inflammation spreads easily. Its corresponding spinal level through the sympathetic nervous system is T5-9 and parasympathetic supply comes from the vagus nerve. Pancreatic cells can be destroyed by EtOH, thereby destroying their ability to produce necessary hormones for digestion, which also causes a decrease in the intensity of abdominal pain during flare-ups. The decrease in digestive enzymes also causes a decrease in nutrient absorption, resulting in weight loss and an increase of fat in stools. Insulin-producing pancreatic beta cells and glucagons-producing alpha cells can also be injured, causing pancreatic diabetes. EtOH abuse-induced cell injury also causes the release of cytokines which increase collagen and therefore fibrosis of the pancreas. Hypertension, resulting in ischemia, can exacerbate the ischemia caused by the ductal obstruction and fibrosis. Finally, pancreatic diabetes usually cannot be treated with oral hypoglycemics, but only with insulin. This causes a problem as glucagon is also decreased, and may result in a hypoglycemic coma if blood sugar is not well-controlled</p>
<p>5. What will be your highest yield regions?</p>	<p>Thoracic region is highest yield to decrease sympathetics, followed by abdominal region to release tensions on the pancreas. Comorbidity of tobacco abuse may require more attention to the lungs/diaphragm.</p>
<p>6. How does previous trauma influence these regions?</p>	<p>The patient has no trauma history listed but even minor traumas could have resulted in fascial restrictions, especially through the abdomen and respiratory diaphragm. This would affect venous and lymphatic return</p>
<p>7. Which 1 or 2 of the aspects below has the greatest influence on the patient complaint?</p> <ul style="list-style-type: none"> • Pain • Fluid congestion • Hyper-sympathetic influence • Parasympathetic influence 	<p>Pain (primary complaint) Hyper-sympathetic (viscerosomatic reflexes to T5-9 setting up facilitated segments) HTN will be negatively influenced with hyper-sympathetic influence.</p>

8. What are the acute or chronic aspects?	<p>Acute – pain Chronic – wasting secondary to malabsorption (pancreatic insufficiency) and pain (decreasing appetite). Also risking progression to complete pancreatic failure (diabetes mellitus) as well as liver and other organ damage secondary to alcohol abuse.</p>
9. Devise an appropriate treatment plan based on musculoskeletal components involved in the patient complaint	<p>Goals for osteopathic manipulative management—includes:</p> <ol style="list-style-type: none"> 1. Reduce somatic dysfunction of T5-9 to decrease somatic contribution to the facilitated spinal cord segments. 2. Improve general function of the nervous system (especially decrease sympathetic tone) 3. Reduce fascial restrictions in the abdomen, as well as associated venous and lymphatic structures. 4. Improve abdominal diaphragm excursion <p>The treatment plan could include:</p> <ol style="list-style-type: none"> 1. Paraspinal inhibition 2. Muscle energy to thoracic segments 3. Normalize parasympathetic influence through suboccipital release 4. Visceral techniques to pancreas <p>Myofascial release to abdomen and diaphragm</p>
10. How soon would you see the patient for OMM follow-up?	<p>Most important is to decrease facilitation of the thoracic segments however attention must also be paid to the patient’s systemic tolerance of treatment. This may require shorter, gentler techniques with greater frequency at first (more than once daily) and then decreasing as facilitation starts to resolve and patient reserves are improved.</p>
11. What are the outpatient, inpatient, and emergency room considerations?	<p>In the emergency room, the patient’s primary complaint of pain needs to be addressed. OMM can and should be offered in a gentle and cautious manner. Paraspinal inhibition is the modality to offer first followed by gentle thoracic treatment as tolerated. If his pain is bad enough/intractable, he may be admitted in whereupon he should receive regular but conservative treatments. Somewhere in his management treatment for alcohol cessation needs to be implemented, either as an in- or outpatient. Outpatient follow-up will definitely be needed for both continued OMM and most importantly, treatment/counseling of his chronic and progressive pancreatitis.</p>
12. How are you going to talk to your patient about their complaint and your treatment?	<p>In a confident, even tone, laymen's terms. Convey the seriousness of the situation.</p>
13. How will you communicate your findings, diagnosis, and rationale for OMM treatment to your preceptor?	<p>I will present the patient’s findings in a systematic manner</p>

<p>14. What coding and billing information for evaluation and management and procedural services will you generate?</p>	<p>E/M—Emergency Department—Detailed 99284 Procedure—Manipulation, 3-4 areas Diagnoses Chronic Pancreatitis 577.1 Diabetes Mellitus 250 Alcoholism V11.3 Hypertension 401 Tobacco Abuse 305.1 Somatic Dysfunction-Abdomen 739.9, Cervical 739.1, Thoracic 739.2</p>
<p>15. How would you record your encounter and OMT on your patient care logs?</p>	<p>Enter patient data, diagnosis date, and any special comments.</p>

Procedure Services: Osteopathic Manipulative Treatment						
		Code		Description		
		98925		Manipulation, 1-2 areas		
		98926		Manipulation, 3-4 areas		
		98927		Manipulation, 5-6 areas		
		98928		Manipulation, 7-8 areas		
		98929		Manipulation, 9-10 areas		
CPT Diagnostic Codes: Rank in order of Importance						
Diagnosis			Somatic Dysfunction			
Code	Description		Code	Description	Code	Description
			739.0	Head	739.5	Hip/Pelvis
			739.1	Cervical	739.6	Lower Extremity
			739.2	Thoracic	739.7	Upper Extremity
			739.3	Lumbar	739.8	Rib
			739.4	Sacrum/Sacroiliac	739.9	Abdomen

<p>16. What is the Evidence Base?</p> <p>*Beal, MC. Viscerosomatic reflexes: a review. JAOA 1985(12):53-68.</p> <p>*Brown, A, Hughes, M, Tenner, S, Banks, PA. Does pancreatic enzyme supplementation reduce pain in patients with chronic pancreatitis: a meta-analysis. Am J Gastroenterol 1997; 92:2032.</p> <p>*Ettlinger, H. Treatment of the Acutely Ill Hospitalized Patient. In: Ward RC, ed. Foundations for Osteopathic Medicine. 2nd ed. Philadelphia: Lippincott Williams & Wilkins, 2002;1115-1142.</p> <p>*Nelson, KE, Glonek, T. <u>Somatic Dysfunction in Osteopathic Family Medicine</u>, Lippincott Williams & Wilkins, 2007;296-298.</p> <p>*Steer, ML, Waxman, I, Freedman, SD. Chronic pancreatitis. N Engl J Med 1995; 332:1482.</p> <p>*Singh, VV, Toskes, PP. Medical therapy for chronic pancreatitis pain. Curr Gastroenterol Rep. 2003; 5:110.</p>

*Talamini G, et al: Alcohol and smoking as risk factors in chronic pancreatitis and pancreatic cancer. Dig Dis Sci 1999 Jul; 44(7): 1303-11.

Search for the best evidence references:

An appraisal of the osteopathic literature is critical to ensure the osteopathic paradigm is foremost in the philosophical application of information to patient care. Search of relevant and associated data from the osteopathic literature:

OstMed-Dr (<http://www.ostmed-dr.com:8080/vital/access/manager/Index>)

Other literature bases (systems or synopsis engines):

- Poems (www.info poems.com)
- Family Practice Inquiry Network (www.fpin.org)
- PubMed
- Ovid
 - Google Scholar

Section III: Workshop/Lab (approximate time 60 minutes)

Facilitator demonstrates the key treatment techniques.

1. Participants divide into groups at the table
2. At each table, discuss and practice the appropriate palpatory diagnosis for this patient
3. Facilitator demonstrates the key treatment techniques:
4. Participants should practice the following techniques on each other:
 - Paraspinal inhibition
 - Muscle energy to thoracic segments
 - Normalize parasympathetic influence through suboccipital release
 - Visceral techniques to pancreas
 - Myofascial release to abdomen and diaphragm
5. At each table, while the techniques are being practiced:
 - a. Identify and practice good body mechanics for the physician and patient in treatment
 - b. Discuss the treatment plan
 - c. Discuss what palpatory findings should change on the patient after OMM treatment

6. Documentation

Residents demonstrate an appropriate documentation of this case including findings and treatment here...



Section IV: Final Wrap-up and Questions/Answers