Facilitator's Guide

Case Presentation

Chief Complaint: A 36-year-old black female presents with a three-day history of lower abdominal pain, urgency, frequency and malaise**.** She denies any nausea or vomiting.

History: She has been running a fever (99-101) intermittently over the past three days. She describes her abdominal pain as a cramping pressure in the suprapubic region, which at times becomes sharp. Her pain was initially a dull fullness. She reports that she has had urinary frequency, oliguria, and hematuria. She also reports that she has been drinking cranberry juice over the past 2 days and her pain has gotten worse. She has been treated for several urinary tract infections, but treatments don't always eliminate her pain.

Meds: Prilosec OTC (omeprazole) 20 mg one BID, Lopressor (metoprolol) 50mg BID, ASA 81 mg daily, and Multivitamin daily.

Past Medical History: Hypertension, recurrent hematuria, GERD, and dyspareunia.

Past Surgical History: tonsillectomy, adenoidectomy, Cesarean section X 2.

Review of Systems fatigued, fevers, chills. Tension HA, no oral lesions or difficulty swallowing. Wears glasses for vision correction. HTN, no exertional dyspnea, no murmurs or congenital defects. No asthma, pneumonia, bronchitis, or shortness of breath. History of heartburn and reflux, no diarrhea/constipation, no hematochezia or melena. Patient has urinary frequency, urgency, and hematuria. She often experiences suprapubic tenderness and pain. Menarche age 12, periods are regular but painful. She had one complicated vaginal delivery requiring the use of forceps and an episiotomy. She has had 2 Cesarean sections. No seizures, history of syncopal episodes, no paralysis.***:***

Physical Exam:

Vital signs: B/P 120/80 P 68 R18 T98.6F Wt. 205 Ht 5'10'' BMI 29

General: fatigued, fevers, chills.

HEENT: normocephalic, EOMI, PERRLA. No thyromegaly, no carotid bruits.

Cardio/Pulm: RRR without murmur, radial, dorsalis pedis, and posterior tibial pulses 2+. LCTA, respiratory rate regular without the use of accessory muscles.

Abd: soft, bowel sound present in all four quadrants,, suprapubic tenderness, Lloyd's sign negative bilaterally.

Neuro: CNII-XII intact, DTR 2/4 bilaterally upper and lower extremities, alert and oriented to person, place, and time.

Osteopathic Structural Exam:
Patient examined in the seated, right lateral recumbent and supine positions. The patient was found to have cervical and lumbar paraspinal musculature tightness. Muscle strength was 5/5 bilaterally for the upper and lower extremities. Gait was normal. The OA was extended rotated right and sidebent left. C3-5 were extended, rotated and sidebent right. T9-12 was neutral, rotated right and sidebent left. L1-2 was extended, rotated and sidebent left. L5 was rotated right and sidebent left. The sacrum was rotated left on a left oblique axis. The right innominate was anteriorly rotated.

Assessment:

- *Be prepared to discuss this at the OMM session. Indicate the primary Medical Diagnosis based upon the international Classification of Diseases (ICD-9). This justifies the Evaluation and Management (E&M) coding portion of the visit.*
- *List all secondary comorbid and complicating factor diagnoses, in order of importance. Itemize somatic dysfunction diagnosis for each body region treated using OMT. This justifies reimbursement for OMT.*
- *Be prepared to discuss management of typical comorbid and complicating factors associated with the patient's diagnosis and how management and treatment would be modified with each comorbid and complicating factor.*

Section II: Mini-Lecture/Discussion (approximate time 20–30 minutes)

Discussion Questions	Teaching Points
1. Propose an appropriate differential diagnosis / assessment - Primary Diagnosis	**Differential Diagnoses:** Acute urinary tract infection, interstitial cystitis, cystitis, pyelonephritis, bladder cancer, uterine fibroids, ovarian cysts, tubal pregnancy, adhesions, pelvic inflammatory disease, vaginosis, vaginal candidiasis, endometriosis, ovarian cancer, renal carcinoma, sarcoidosis, herniated disc, and spondylolisthesis. **Primary Diagnosis:** Acute urinary tract infection 595.0 (Acute cystitis)
2. How do you explain the current structural findings in the context of this case? • Are any relevant structural findings missing? • What would you do differently? Why?	Visceral somatic changes both parasympathetic and sympathetic involvement. Visceral somatic changes of GI tract, kidneys, ureters, and bladder. Upper thoracic changes due to GERD.
3. What pathophysiology & functional anatomy knowledge is pertinent for diagnosing/treating this patient	Interstitial cystitis: increased afferent and efferent neuronal activity, excess inflammatory mediators, increases epithelial permeability. While the exact mechanism is unknown, one theory is that IC is caused by a defect in the glycosaminoglycan component of the mucin layer that covers and protects the bladder urothelium. Irritating substances in the urine may leak through the urothelium resulting in inflammation, injury, mast cell degranulation and sensory nerve depolarizations.

4. Which 1 or 2 of the aspects below has the greatest influence on the patient complaint? • Pain • Fluid congestion • Hyper-sympathetic influence • Parasympathetic influence	Pain and Parasympathetic influence. Parasympathetic homeostasis can allow normalization of glomerular filtration rates, increased urinary volume, and decrease spasm of proximal ureters.

5. Devise an appropriate treatment plan based on musculoskeletal components involved in the patient complaint	**Goals for osteopathic manipulative management**—*includes:* • Treat somatic dysfunctions of OA to release the OA allowing normalization of glomerular filtration rates, increased urinary volume, and decrease spasm of proximal ureters. • Treat somatic dysfunctions of the thoracolumbar region restore normal sympathetic tone resulting in decreased urinary frequency and urgency. • Treat somatic dysfunctions of the lumbar, pelvis and sacrum. **The treatment plan could include:** OA decompression, ME to thoracic and lumbar dysfunctions Sacral gapping Release of renal fascia

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