Epiploic Appendagitis Mimicking Acute Appendicitis: An Osteopathic Case Report

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Introduction

Abdominal pain is a common complaint seen in outpatient primary care and inpatient emergency medicine alike. The differential diagnosis is broad, and patients can be managed conservatively or sent to the emergency room for further workup [1,2]. For right lower quadrant pain, acute appendicitis is a common consideration and often warrants immediate evaluation given the possibility of rupture and the need for surgical intervention. Acute epiploic appendagitis is a less common diagnosis of right lower quadrant pain and is rarely considered. Inaccurate diagnosis often leads to unnecessary hospitalizations, antibiotic therapy, and surgical intervention [3,4].

Osteopathic physicians are trained to integrate the medical history of a patient with palpatory examination through the osteopathic structural exam [5]. Here we present a case of acute epiploic appendagitis mimicking acute appendicitis as well as reviewing osteopathic physical exam findings associated with abdominal processes.

Case Presentation

PCP

Initial Presentation

54-year-old Latinx female presenting to urgent care with 4-day history of generalized abdominal pain that has progressively worsened.

Past medical history was significant for HTN, HLD, and anxiety. Surgical, social, and family history were non-contributory.

Vitals/PE

Vitals/Physical Exam

- Vitals within normal limits
- Tender to palpation at right lower quadrant with equivocal findings for rebound tenderness/guarding
- Equivocal McBurney's, Rosving, Psoas, and Obturator tests

OMM

Osteopathic Structural Exam (Figure 1)

- Chapman's points along right iliotibial band
- Hypertonic paraspinals at T1—T11
- Negative viscerosomatic reflex at T12 and Chapman's point at 12th rib tip

ED

Emergency Room Evaluation

- Negative urine pregnancy test
- Normal CBC, CMP, and lipid panel
- CT abdomen and pelvis revealed acute epiploic appendagitis (Figure 3). Negative for appendiceal pathology.

Discharge

Outpatient Follow-Up

PCP visit 1 week later revealed continued osteopathic findings in the aforementioned distribution. Pain controlled on NSAIDs.

Telehealth follow-up in 1 month revealed complete resolution of symptoms and without any reoccurrence.

Gait and Station:	Anterior/Posterior Curves				Scoliosis/Short Leg	Skin	
Body Type: ☐ Endomorph ☒ Mesomorph ☐ Ectomorph	Type	I	N	D	Lateral Spinal Curves: ☒ None ☐ Functional ☐ Mild ☐ Moderate ☐ Severe ☐ Sitting/Standing ☐ Supine/Prone ☐Unable to assess	Head/Neck	☒ N ☐ Ab
	Cervical	☒	☐	☐		Trunk	☒ N ☐ Ab
Posture: ☐ Excellent ☒ Fair ☐ Poor	Thoracic	☒	☐	☐		(L) Upper Extremity	☒ N ☐ Ab
	Lumbar	☐	☐	☒		(R) Upper Extremity	☒ N ☐ Ab
Gait: ☒ Symmetrical ☐ Asymmetrical	I= Increased N= Normal D= Decreased Ab= Abnormal				Short Leg? ☒ Equal/Symmetrical ☐ Asymmetrical	(L) Lower Extremity	☒ N ☐ Ab
						(R) Lower Extremity	☒ N ☐ Ab

Methods Used for Examination					Severity Scale Key (**0**= Background Level/No SD, **1**=Minor TART, **2**= Obvious TART, **3**= TART + key lesions)					
All	T	A	R	T	Region Evaluated	Severity 0	1	2	3	Somatic Dysfunction and Other Systems: Musculoskeletal and Other Systems
☐	☐	☐	☒	☐	Head and Face	☒	☐	☐	☐	
☐	☐	☐	☒	☐	Neck	☒	☐	☐	☐	
☒	☐	☐	☐	☐	Thoracic T1-T4	☒	☐	☐	☐	
☒	☐	☐	☐	☐	Thoracic T5-T9	☒	☐	☐	☐	
☒	☐	☐	☐	☐	Thoracic T10-T12	☐	☐	☒	☐	Hypertonicity of paraspinals from T10-T11 bilateral
☒	☐	☐	☐	☐	Ribs	☐	☒	☐	☐	Inhalation SD (R) 5-9 pump, no Chapman in 12th rib tip
☒	☐	☐	☐	☐	Lumbar	☐	☐	☒	☐	Hypertonic right paraspinals
☐	☐	☐	☒	☐	Sacrum & Pelvis	☒	☐	☐	☐	
☐	☐	☐	☒	☐	Innominate	☒	☐	☐	☐	
☐	☐	☐	☐	☒	Abdomen	☒	☐	☐	☐	Mild tenderness to palpation at right lower quadrant
☐	☐	☒	☐	☐	Upper E. (R)	☒	☐	☐	☐	
☐	☐	☒	☐	☐	Upper E. (L)	☐	☒	☐	☐	Slight decrease in internal rotation.
☐	☐	☒	☐	☐	Lower E. (R)	☐	☐	☒	☐	Chapman's points along iliotibial band
☐	☐	☒	☐	☐	Lower E. (L)	☒	☐	☐	☐	

Figure 1. Complete osteopathic physical exam with significant findings. Originally adapted from the Journal of the American Osteopathic Association[5].

Figure 2. CT scan of abdomen pelvis with and without contrast
A. Transverse view and B. Sagittal view with red circles indicating area of epiploic appendagitis on ascending colon, with surrounding inflammatory fat stranding, and thickening of the adjacent peritoneum.

Discussion

This case represented a typical case of epiploic appendagitis; however, it also serves as a reminder of the value of the osteopathic structural exam in localizing pathology. Visceral and somatic pain afferents nerve signals overlap in the dorsal horn and influence each other, can present as skin erythema for acute processes versus skin blanching for chronic states (Figure 3). Depending on the area of these findings, different associations have been found to correlate between somatic findings and visceral pathology [6-9]. In this case, the appendix is associated with changes at T12, which were missing on the structural exam. In the case of colonic pathologies, patients can have Chapman's points along the iliotibial band that correlate with the area of concern, which was seen here along the right iliotibial band, which corresponds to the ascending colon [10].

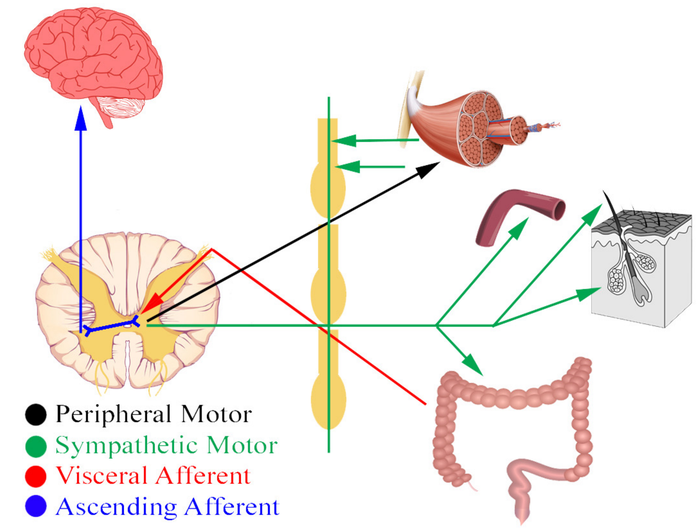

Figure 3. Schematic diagram of colonic viscerosomatics and its associated musculoskeletal manifestations.

Conclusion

Osteopathic physical exam findings are useful as an adjunctive tool in diagnosing and describing the colonic disease processes. Epiploic appendagitis is an uncommon cause of right lower quadrant pain and should be considered when developing a differential diagnosis. The clinical course is typically self-limited and resolves with pain medication. The osteopathic structural exam can give insight into ruling out other pathologies such as acute appendicitis, however imaging modalities such as ultrasound and CT are needed for definitive diagnosis. Greater research is needed in correlating osteopathic findings to physical exam findings and pathology as this may decrease unnecessary testing and potentially improve patient outcomes.

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References

1. Palmer J, Pontius E: Abdominal Pain Mimics. Emerg Med Clin North Am. 2016, 34:409-423. 10.1016/j.emc.2015.12.007
2. Legome EL, Sims C, Rao PM: Epiploic appendagitis: adding to the differential of acute abdominal pain. J Emerg Med. 1999, 17:823-826. 10.1016/s0736-4679(99)00089-x
3. Giannis D, Matenoglou E, Sidiropoulou MS, Papalampros A, Schmitz R, Felekouras E, Moris D: Epiploic appendagitis: pathogenesis, clinical findings and imaging clues of a misdiagnosed mimicker. Ann Transl Med. 2019, 7:814. 10.21037/atm.2019.12.74
4. Rioux M, Langis P: Primary epiploic appendagitis: clinical, US, and CT findings in 14 cases. Radiology. 1994, 191:523-526. 10.1148/radiology.191.2.8153333
5. Kuchera ML: Applying osteopathic principles to formulate treatment for patients with chronic pain. J Am Osteopath Assoc. 2007, 107:ES28-38.
6. Chin J, Francis M, Lavalliere JM, Lomiguen CM: Osteopathic Physical Exam Findings in Chronic Hepatitis C: A Case Study. Cureus. 2019, 11:e3939. 10.7759/cureus.3939
7. Chin J, Kviatkovsky B, Lomiguen C: Osteopathic Considerations for Peripheral Neuropathy Due to Concomitant Diffuse Idiopathic Skeletal Hyperostosis Syndrome and Lumbar Epidural Lipomatosis: Case Report. Interact J Med Res. 2019, 8:e14607. 10.2196/14607
8. Chin J, Qiu W, Lomiguen CM, Volokitin M: Osteopathic Manipulative Treatment in Tension Headaches. Cureus. 2020, 12:e12040-e12040. 10.7759/cureus.12040
9. Zhou Y, Chin J, Evangelista A, Podger B, Wan PJ, Lomiguen CM: Inhibiting the Musculoskeletal Pathological Processes in Post-knee Replacement Surgery With Osteopathic Manipulative Treatment: A Systematic Review. Cureus. 2022, 14:e21599. 10.7759/cureus.21599
10. Patriquin D. Chapman's reflexes. In: Ward R, ed. Foundations for Osteopathic Medicine. Baltimore, Md: Lippincott Williams & Wilkins; 1997: pp 935-940.