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Surgery

Pain Right Iliac Fossa (RIF): Not Every Pain is Appendicular.

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Original Research Article

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Abstract: Appendicitis, an inflammation of the vermiform appendix, commonly presents with migratory pain in the right iliac fossa. However, in most cases, the pain may not be appendicular in origin, especially in young females, which may end with negative appendicectomies. Surgeons dealing with patients having pain in the right iliac fossa, specifically young females, should be rigorously evaluated to confirm the diagnosis before any surgical intervention to avoid unnecessary surgical exploration in this age group.

Keywords: Appendix, RIF, Appendicitis, Adolescents, Female. Appendecectomy.

INTRODUCTION

The common presenting symptom in adolescent girls is non-specific abdominal pain, which could be in the right iliac fossa that rarely needs surgical intervention. The pain may or may not be of appendicular origin. The lifetime risk of acute appendicitis for girls is 6.7% compared to 8.7% in boys [1]. Despite its high incidence and diagnostic facilities, the diagnosis is still a challenge, especially in young girls leading to negative appendecectomies that remain high [2, 3]. The term "negative appendectomy" is used for the surgical procedure performed for patients suspected of appendicitis where the appendix is normal histologically, which could be due to diagnostic inaccuracy of the surgeon or diagnostic tools available.

The pain in the right lower quadrant for which the distinction remained elusive may be related to other organs in the region. A thorough patient assessment, coupled with diagnostic evaluation, will significantly reduce the negative appendecectomies in this demographic population. Herein, we report an adolescent girl who presented with pain in the right iliac fossa. A diagnostic laparoscopy; was planned but, her symptoms resolved with conservative management, as her father refused surgical intervention.

Case Presentation

A 14year young female presented to the emergency department (ED) with pain in her right iliac for the last two days. The pain was mild to moderate in nature and associated with nausea, one episode of vomiting, and loss of appetite. There was no history of fever, loose motion, or burning micturition. On detailed questioning, the patent has first menstruated six months ago, followed by irregular cycles.

Clinical evaluation of the patient revealed a young female, fully conscious in time-space and person. Recorded vitals were Temp 37.1C0, Pulse 86/min, BP 110/70mmHg, R/R 17/min, O_2 saturation was 98% on room air by pulse oximetry. The systemic evaluation was insignificant except for pain right iliac fossa on palpation.

Tab-1: Laboratory workup requested in ED is as under

Laboratory Test	patient's values	Normal range values
White blood count (WBC)	11.4×103/µL	4.1-10.9×103/µL
Red blood cell (RBCs)	4.05 mil/UL	3.6-6.1 mil/UL
Polymorphs	74.3%	35-80%
Lymphocytes	18.3%	20-50%
Hemoglobin (Hb)	11.2 g/dL	10.5-14 g/dL
Mean corpuscular volume (MCV)	78.3 fL	78-101 fL (F)
Platelets	281×103/µL	150-350×103/µ
Blood urea nitrogen (BUN)	13.7mg/dL	7-20 mg/dL
Creatinine	0.6 ng/mL	0.5-0.9 ng/mL
Sodium (Na^+)	138 mEq/L	136-146 mEq/L
Potassium (K^+)	4.3 mEq/L	3.5-5.0 mEq/L
Aspartate transaminase (AST)	25 IU/L	12-38 IU/L
Alanine transaminase (ALT)	16 IU/L	7-41 IU/L
Alkaline phosphatase	421IU/L	180-1200 IU/L
Blood sugar	71mg/dL	60–100mg/dL
C-reactive protein	1.4mg/L	0.2-3.0 mg/L
ESR	56	

Tab-2: Urine examination findings were

Measurements	Values	Reference range
Color	Yellow	Yellow
Appearance	Clear	Clear
Specific gravity (g/mL)	1.022	1.005-1.030
PH	6.4	5.0-8.0
Protein (mg/mL)	Negative	Negative
Glucose (mg/mL)	Negative	Negative
Ketones (mg/mL)	Negative	Negative
Bilirubin	Negative	Negative
Urobilinogen	0.1	0.2-1.0
RBC/HPF	6	0-4
WBC/HPF	3	0-4

Abdominal sonography was unremarkable. Thus, a clinical diagnosis of appendicitis was made. The differential diagnosis includes urinary tract infection, which presents with similar symptoms but was ruled out, as the patient has no history of dysuria or increase frequency of urination along with normal urinalysis. The other differential includes mid-cycle pain and ovarian cyst. The latter ruled out by unremarkable sonographic findings. The only differential could be the mid-cycle pain for which gynecological consultation was done, which was not remarkable, but the possibility of mid-cycle pain, could not be ruled out as the history suggests.

A nil per mouth (NPO) with IVF (D5NS) and empirical antibiotics initiated, and the patient was admitted to a surgical unit under observation and planed for diagnostic laparoscopy the next day. Upon refusal of the patient father for any surgical procedure, the patient followed under observation. After 48 hours of observation, patient symptoms improved. The pain subsided with increases in appetite. Laboratory workup repeated and was within the normal range. The patient was discharged home on the 3rd admission day with a week later follow-up. The patient was symptom-free on the first follow-up visit in the surgical out-patient department (OPD).

DISCUSSION

The origin of pain in the right iliac fossa, commonly thought to be of appendicular origin, could be of pathology related to other organs located in this quadrant that may not be surgical. Females, in their early reproductive life, the cycle pain will be a differential of appendicular pain. For patients between 8-18 years admitted for inpatient assessment for acute abdominal pain, only 25% have confirmed appendicitis [4]. The common presenting symptoms are anorexia, migratory pain, nausea, vomiting, and sometimes fever. The diagnosis is mainly clinical, coupled with diagnostic modalities.

A clinical scoring system developed by Alvarado[5], an American general surgeon, for pregnant females with an extensive validity in the non-pregnant group, is a 10 point scoring system (six clinical and two

laboratory items) used for the diagnosis of appendicitis. Currently, a modified Alvarado [6] score is in practice, extensively validated, in different settings [7-9]. Another scoring system developed mainly for the Asian and Middle Eastern population called Raja Isteri Pengiran Anak Saleha Appendicitis (RIPASA) [10], is a validated scoring system [11] used for clinical diagnosis of acute appendicitis.

The gold standard surgical procedure is an appendecectomy (open or laparoscopic) once acute appendicitis is confirmed and other causes of non-appendicular pain rolled out. A non-surgical management approach could be an alternative for suspected cases, especially young females.

CONCLUSION

The pain in the right iliac fossa may or may not be appendicular in origin. The surgeons dealing with patients, specifically young females, should be thoroughly evaluated to confirm the diagnosis before opting for surgical intervention to avoid negative appendecectomies.

Consent

Written; informed consent obtained; from the patient guardian for publication of the data.

Conflict of Interest

The authors declare that they have no conflict of interest.

REFERENCES

1. Addiss DG, Shaffer N, Fowler BS, Tauxe RV. The epidemiology of appendicitis and appendectomy in the United States. American journal of epidemiology. 1990 Nov 1;132(5):910-25.
2. Osime O, Ajayi P. Incidence of negative appendectomy: experience from a company hospital in Nigeria. Cal J Emerg Med. 2005;6: 69-73.
3. Ruffolo C, Fiorot A, Pagura G, Antoniutti M, Massani M, Caratozzolo E. Acute appendicitis: What is the gold standard of treatment? World J Gastroenterol. 2013;19(47): 8799-8807.
4. Buddingh KT, Wieselmann E, Heineman E. Constipation and non-specific abdominal pain in teenage girls referred for emergency surgical consultation. J Pediatr Gastroenterol Nutr. 2012;54: 672-676.
5. Alvarado A. A practical score for the early diagnosis of acute appendicitis. Ann Emerg Med. 1986; 15(5): 557-564. http://doi.org/10.1016/S0196-0644(86)80993-3
6. Alvarado A. How to improve the clinical diagnosis of acute appendicitis in resource limited settings. World J Emerg Surg. 2016;26: 11-16 Ann Emerg Med. 1986; 15(5): 557-564.
7. Khan I, ur Rehman A. Application of Alvarado scoring system in diagnosis of acute appendicitis. J Ayub Med Coll Abbottabad. 2005;17(3): 41-44.
8. Sadiq M, Amir S. Efficacy of modified Alvarado scoring system in the diagnosis of acute appendicitis. J Postgrad Med Inst. 2002;11: 72-77.
9. Emmanul S Kanumba, Joseph B. Mabula, Peter Rambau, and Phillipo L Chalya. Modified Alvarado Scoring System as a diagnostic tool for acute Appendicitis at Bugando Medical Centre, Mwanza, Tanzania. BMC Surg. 2011;11: 4.
10. Chong CF, Adil MI, Thien A, Suyoi A, Mackie AJ, Tin AS, Tripathi S, Jaman NH, Tan KK, Kok KY, Mathew VV, Paw O, Chua HB, Yapp SK. Development of the RIPASA score: a new appendicitis scoring system for the diagnosis of acute appendicitis. Singapore Med J. 2010;51(3): 220-225. PMID: 20428744.
11. Abdullah Shuaib, Ali Shuaib, Zainab Fakhra, Bader Marafi, Khalid Alsharaf, and Abdullah Behbehani. Evaluation of modified Alvarado scoring system and RIPASA scoring system as diagnostic tools of acute appendicitis. World J Emerg Med. 2017;8(4): 276-280.