

CASE REPORT

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A vaguely symptomatic man with a ruptured appendix and localized peritonitis

Kelly M. Blosser, Adam C. Richardson

ABSTRACT

An otherwise healthy 24-year-old male was sent to the emergency department by an urgent care center with remote concern for appendicitis. The patient was afebrile, eating and drinking normally and non-leukocytotic, but because of mild tenderness to palpation in the right lower quadrant of his abdomen and symptomatology persisting for seven days computed tomography was obtained which revealed a ruptured appendix and localized peritonitis. The patient was admitted to the acute care emergency surgery service and managed non-operatively with antibiotics.

Keywords: Computed tomography, Ruptured appendicitis, Peritonitis

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INTRODUCTION

Acute abdominal pain is one of the most common reasons for which patients present to the emergency department (ED) for evaluation with some estimates being upwards of 10% of all ED visits [1]. It is estimated that the lifetime risk of developing appendicitis in the United States is one in fifteen and the associated healthcare costs are in the billions annually [2]. Mortality associated with acute appendicitis is generally low, but complications can be wide ranging depending on the patient's overall health and socioeconomic status [3]. The clinical presentation of acute appendicitis can be variable, however there is a generally accepted classic presentation which includes the triad of pain, vomiting and fever, although certainly not all who experience these symptoms have a surgical abdomen [4]. All primary care, urgent care and emergency department healthcare providers must be adept at evaluating patients with abdominal pain as emergent imaging for all of such patients is unfeasible, yet some patients who experience only mild symptoms may still have acute pathology beneath the surface.

CASE REPORT

A 24-year-old male was advised by a local urgent care center to present to the ED after he complained of intermittent pelvic and abdominal pain that was diffuse but worse on the right side, waxing and waning over the prior seven days. He experienced vomiting during the initial two days of pain, but had not vomited in the past five days. He also complained of constipation with no bowel movement in the prior four days and wondered if this was the cause of all of his symptoms although he reported that he had been eating without problem. He denied fevers, chills or genitourinary symptoms or concerns.

His physical examination revealed rebound tenderness in the right lower quadrant of his abdomen, but without rigidity. His vital signs were all within normal limits and his laboratory testing revealed no leukocytosis or lactic acidosis. He appeared uncomfortable, but in no distress. Because his symptoms had been ongoing for seven days without resolution and his right lower quadrant was tender to palpation, a computed tomography scan was ordered to rule out a small bowel obstruction and

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acute appendicitis. The computed tomography scan was impressive, revealing a perforated appendicitis and evidence of localized peritonitis (Figures 1 and 2).

The acute care emergency surgery team was consulted and the patient was admitted to their service. The patient had no systemic symptomatology and tolerated food, fluids and medications by mouth without problem, the team employed shared decision making with the patient that culminated in outpatient treatment with

oral amoxicillin/clavulanate potassium, strict return precautions and close outpatient follow up. He completed his course of antibiotics and continued to improve.

DISCUSSION

Thousands of patients present to urgent care and primary care offices each year for acute abdominal pain and the vast majority of them are not experiencing acute appendicitis. Generalist healthcare providers must be judicious in whom they refer to the ED, and ED providers must be judicious in which resources they employ [5]. It is certainly reasonable to begin a workup with a complete blood count, a basic metabolic panel, and a lactic acid level with the rationale being that any abnormality will prompt escalation of the workup to include advanced imaging, whereas an absence of laboratory abnormalities will be clinically reassuring, however our patient had no abnormal vital signs or laboratory values, yet he did in fact had acute appendicitis [4]. Careful consideration of the duration of his symptoms (seven days) and a good physical examination are what led our team to order advanced imaging even after reassuring laboratory findings and vital signs.

Management of acute appendicitis non-operatively with oral antimicrobial therapy is gaining popularity [6]. As the patient's appendix had already ruptured and he was systemically stable, our surgical team felt that non-operative management was not only less invasive but also generally safer and the patient agreed. Shared decision making is imperative in such scenarios, as is consideration of the patient's level of health literacy, reliability and access to resources. No patient who may likely become lost to care should ever be discharged home with the diagnosis of acute appendicitis as serious complications are too likely to occur [7].

CONCLUSION

Careful consideration of the duration of this patient's symptoms (seven days) and a good physical examination are what led our team to order advanced imaging even after reassuring laboratory findings and vital signs.

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Figure 1: Coronal contrast enhanced computed tomography of ruptured appendix measuring 13mm with wall thickening and extensive periappendiceal fat stranding. Also noted at the tip of the appendix is a 1.5 cm collection containing locules of air and complex fluid as well as focal peritoneal thickening.



Figure 2: Axial contrast enhanced computed tomography of ruptured appendix measuring 13mm with wall thickening and extensive periappendiceal fat stranding. Also noted at the tip of the appendix is a 1.5 cm collection containing locules of air and complex fluid as well as focal peritoneal thickening.

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Author Contributions

Kelly M. Blosser – Conception of the work, Design of the work, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Adam C. Richardson – Conception of the work, Design of the work, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related

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Guarantor of Submission

The corresponding author is the guarantor of submission.

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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