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Date of Submission: 20/02/2021

Date of Acceptance: 16/05/2021

Date of Online Publication: 30/08/2021

Type of Article: Case Report

Title: A case of abdominal pain with a diagnosis of epiploic appendagitis

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Mini-biography

Malini was a final year medical student at Monash University when the piece was written and is currently an intern at Eastern Health. She is the recipient of the Australasian College of Dermatology prize in dermatology. Dr On Bon Chan was a GP in East Doncaster at the time the piece was written and is currently in his first year as a dermatology registrar.

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Summary

The report presents a case of epiploic appendagitis and a diagnostic approach to abdominal pain.

Running header: epiploic appendagitis

KEYWORDS: epiploic appendagitis; left lower quadrant pain; appendicitis; diverticulitis

Table number: 4

Figure number: 1

Word count: 735

Abstract

Introduction: Abdominal pain is a common presentation in general practice and a systematic approach is required to exclude serious pathology and achieve an accurate diagnosis.

Case overview: We present a case of a 76-year-old male who complained of left lower quadrant abdominal pain to illustrate a systematic approach to managing diagnostic uncertainty. The patient was subsequently diagnosed with epiploic appendagitis (EA).

Discussion overview: Epiploic appendagitis can mimic other acute abdominal conditions including diverticulitis, omental infarction, and appendicitis. The recognition and early diagnosis of epiploic appendagitis helps to avoid unnecessary investigations and treatment.

Learning points

- Abdominal pain is a common presentation in general practice and a systematic approach is important to exclude serious pathology and achieve an accurate diagnosis.
- Murtagh's diagnostic framework and safety netting are effective strategies in managing diagnostic uncertainties.
- Epiploic appendagitis is a benign condition and an early diagnosis can prevent unnecessary investigations and treatment.

Introduction

Acute abdominal pain is a common presentation to general practitioners, representing 2.1 per 100 consultations [1]. It is often a diagnostic dilemma with several causes ranging from benign to life threatening. This report presents a case of epiploic appendagitis (EA), a cause of abdominal pain that affects 8.8 per 1 million people per year [2]. It presents with sharp pain localised to either the right or left lower quadrant that self-resolves with simple analgesia [2]. In order to reach a diagnosis of EA, a strategy is required. The "restricted rule-outs", otherwise known as Murtagh's diagnostic framework, allows for this by asking clinicians to consider the most common causes of the presenting problem alongside serious diagnoses that must be ruled out [3]. The differential diagnoses for this patient were formulated using Murtagh's diagnostic framework (Table 1) [4]. The framework categorises differential diagnoses into probability diagnoses, serious disorders not to be missed, pitfalls, and rare conditions. Another strategy, "safety netting", is also useful when managing diagnostic uncertainty during consultations. It comprises of transparent communication with the patient regarding the diagnostic uncertainty and natural progression of the condition, "red flag" signs to be aware of, and avenues to seek further help [5]. In patients who present with acute abdominal pain, laboratory investigations and imaging are guided by the clinical presentation and published guidelines [6,7]. As a minimum, full blood examination and urinalysis should be performed on all patients with acute abdominal pain, with women of reproductive age also requiring a pregnancy test.

The case

A 76-year-old male presented to a general practitioner with a three-day history of gradual onset, intermittent and stabbing left lower quadrant (LLQ) non-migratory abdominal pain. The pain was moderate to severe in intensity with no aggravating or relieving factors. He denied fever, night sweats, gastrointestinal and genitourinary symptoms. His significant medical history included obesity, hypertension, type 2 diabetes, and paroxysmal atrial fibrillation. His medications included amlodipine, apixaban, metformin, prazosin, ramipril, simvastatin, and allopurinol.

On examination, his vital signs were within normal limits. Cardiovascular examination was normal. Abdominal examination revealed no visible scars, striae, protrusions, or vascular changes. Superficial palpation of the abdomen revealed left lower quadrant tenderness with guarding but no rebound tenderness. Percussion of the abdomen was tympanic over the stomach and intestine and muffled over the spleen and liver. Bowels sounds were present. Rectal examination and urinalysis were normal.

Based on the clinical presentations, such as the gender and the age of the patient, the sudden onset of LLQ pain, and the abdominal guarding on palpation, the differential diagnoses that were considered include acute diverticulitis, omental infarction, and appendicitis. The clinical features of the above conditions are listed in Table 2 [8,9,10]. Urgent laboratory investigations and abdominal computerised tomography (CT) were requested to confirm the diagnosis and evaluate for complications. The investigations revealed normal white cell count and urinalysis (Table 3). The CT image showed three fatty epiploic appendages associated with the distal descending colon and proximal sigmoid colon. The epiploic appendages located at the distal descending colon measuring 45 x 14 mm had mild surrounding inflammation indicative of EA (Figure 1). Simple analgesics were prescribed and a follow-up appointment in two days was organised. The patient was instructed to present to the emergency department if his condition deteriorated. The abdominal pain improved significantly at the follow up appointment and resolved completely after two weeks.

Discussion

In this case, the patient was diagnosed with EA, a benign and self-limiting condition. EA is the inflammation of the adipose tissue projection from the serosal surface of the colon along the free taenia and taenia omentalis. The most common sites of acute EA are the rectosigmoid junction (57%), ileocaecal region (26%), and ascending colon (9%) [11]. The causes of EA can be divided into primary and secondary. In the primary form, torsion of the epiploic appendages combined with spontaneous venous thrombosis causes ischaemia, localised inflammation, and infarction. Secondary EA is due to inflammation of the surrounding structures, such as the appendix and diverticula [12]. EA primarily affects those between the ages of 20 and 50. The risk factors include being obesity, strenuous exercise, and being male [13]. EA often presents as acute localised abdominal pain with variable location, intensity, and duration. Examination of the area may elicit localised and rebound tenderness. Patients are usually afebrile and do not have other gastrointestinal symptoms or leukocytosis [11]. EA has been diagnosed in around seven percent of patients who were suspected of having acute diverticulitis and around one percent of patients suspected of having acute appendicitis [14,15]. Hence, it is important to treat it as a diagnosis of exclusion. Unnecessary admissions, medical and surgical interventions can be a result of misdiagnosing EA. The diagnosis of EA is usually made by CT scan, which is the gold standard technique of evaluating patients presenting with acute abdominal pain [16]. The condition resolves spontaneously within 3-14 days with simple analgesia, such as paracetamol and anti-inflammatories [11].

Abdominal pain has a wide range of causes, ranging from benign to life threatening. One of the main tasks of a general practitioner is to minimise the risk of missing a serious illness. "Red flags" are symptoms or signs found in the patient's history and clinical examination which could indicate the possibility of a serious underlying condition (Table 4) [17-19]. The presence of such signs and symptoms should prompt clinicians to consider further investigations or assessment at the emergency department. Unstable vital signs, signs of peritonitis on abdominal examination, leukocytosis, and elevated inflammatory markers have been associated with a higher incidence of hospitalisation [20].

This case emphasises the diagnostic and management strategies which can be used to manage acute abdominal pain in an outpatient setting. The early adaptation and practice of the above strategies may help medical students transition from medical school to clinical practice. The published guidelines can also be a valuable resource for junior doctors when choosing investigations and imaging modalities.

Consent Declaration

Informed consent was obtained from the patient for publication of this case report and accompanying figures.

Acknowledgements

None

Conflicts of Interest

The authors declare no conflict of interest

Funding

No funding was received for the preparation of the manuscript

Author Contribution

Malini Sivasaththivel contributed to study design and writing of manuscript. On Bon Chan contributed to the data collection, study design, and writing of the manuscript.

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