Research Article

Epigastric Pain As Presentation Of Acute Pyelonephritis: A Case Report

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Abstract

Acute pyelonephritis is a common bacterial infection causing renal inflammation, typically arising from an ascending urinary tract infection. This case report details an atypical presentation of pyelonephritis in a post-pulmonary tuberculosis patient, presenting primarily with epigastric pain and without the classic symptoms of flank pain or costovertebral angle tenderness. Initially misdiagnosed as cholecystitis, the diagnosis was confirmed through imaging studies, allowing for timely treatment. This case emphasizes the importance of maintaining a high index of suspicion for pyelonephritis in atypical presentations and utilizing appropriate imaging techniques for early diagnosis and intervention.

Introduction

Acute pyelonephritis typically arises from ascending urinary tract infections, predominantly caused by Escherichia coli . Commonly, it presents as fever, flank pain, and costovertebral angle tenderness. However, atypical presentations—such as epigastric pain—can complicate diagnosis, delaying appropriate treatment and increasing the risk of complications such as renal scarring or xanthogranulomatous pyelonephritis.

We report a case of a 41-year-old female who exhibited an unusual presentation of pyelonephritis as isolated epigastric tenderness, leading to initial misdiagnosis.

Case Presentation

A 41-year-old female with a history of treated tuberculosis (completed six months of therapy and tested negative) presented to the emergency department with high-grade fever, chills, and rigors over six months, alongside burning sensations in both feet and recurrent episodes of burning micturition. She reported a one-week history of upper abdominal pain localized to the epigastrium and right hypochondrial region, described as pricking and associated with nausea, but without any history of vomiting, loose stools, or dyspnea.

Her medical history included type 2 diabetes mellitus managed with insulin and oral hypoglycemics, with no prior episodes of chronic kidney disease, hypertension, or significant cardiovascular disease. On physical examination, vital signs were stable, and no suprapubic pain was noted. However, examination revealed right hypochondriac and epigastric tenderness, with no renal angle tenderness.

Initial investigations included a complete blood count, which showed anemia (hemoglobin at 9 g/dL), elevated ESR (112 mm/hr), and normal total white blood cell count. Blood glucose levels indicated poorly controlled diabetes (fasting 71 mg/dL, post-prandial 229 mg/dL, HbA1C 12.34%). Renal function tests too were normal - urea (28 meq/L) Serum creatinine (0.8 mg/dL). Urinalysis showed glucose and 8-10 pus cells per high power field.

Ultrasonography of the abdomen suggested possible cholelithiasis without cholecystitis and cystitis, prompting surgical and gastroenterological consultations. In the meanwhile, patient was treated with supportive care including proton pump inhibitors and antacids, without any relief. An upper gastrointestinal endoscopy returned normal.
A CT scan of the abdomen was therefore performed that showed mild perinephric fat stranding in the right renal fossa and bilateral bulky ovaries, supporting the diagnosis of pyelonephritis. Also urine samples were analysed for CBNAAT to rule out tuberculosis as a cause of the pyuria, but they returned as normal. Meanwhile urine culture reported growth of E.coli.

Upon diagnosis after an abdominal CT, the patient was initiated on intravenous antibiotics and supportive care, with resolution of the complaints and was discharged in stable condition after two weeks in admission.

Discussion

Acute pyelonephritis is a serious condition often resulting from an ascending urinary tract infection, with E. coli being the most prevalent causative agent. Classical presentations include fever, flank pain, nausea, and costovertebral angle tenderness. Atypical manifestations include being asymptomatic[1, 2] , mimicking appendicitis especially amongst patients with ectopic kidney[3], abdominal pain with swelling[4].

In this case report, the patient presented with isolated epigastric pain and symptoms suggestive of gastrointestinal pathology with notable the absence of flank pain or renal angle tenderness, which misled the initial evaluation towards cholecystitis / gastritis. Previous literature has documented cases of pyelonephritis presenting as abdominal pain, but isolated epigastric pain in the absence of renal tenderness is exceptionally rare. Hence this report highlights yet another atypical presentation of pyelonephritis that could present as an isolated epigastric pain and hence considered in its differential diagnosis especially in diabetics. Though emphysematous pyelonephritis associated with emphysematous gastritis[5] is reported with epigastric pain, there was no gastritis in our patient.

The importance of imaging in the diagnosis of pyelonephritis cannot be overstated. While ultrasound can provide preliminary information, CT scans are crucial for definitive diagnosis, as they can reveal characteristic findings such as perinephric fat stranding and parenchymal enhancement deficits. Early recognition and treatment are paramount to prevent complications like renal scarring or the development of xanthogranulomatous pyelonephritis, which often necessitates nephrectomy.

This case also highlights the significance of considering pyelonephritis in patients with recurrent urinary tract infections, especially those presenting with atypical abdominal pain. Prompt imaging and a high index of suspicion are critical to ensure timely and effective treatment.

Conclusion

This case report illustrates the atypical presentation of pyelonephritis as isolated epigastric pain without costovertebral tenderness. It underscores the necessity for clinicians to maintain a broad differential diagnosis and utilize imaging effectively, ensuring timely diagnosis and treatment. Recognizing the potential for atypical presentations of common conditions can significantly enhance patient care and outcomes.

References

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