Case Report

Salmonella Appendicitis in Renal Transplantation

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While appendicitis remains one of the commonest surgical diseases, there are relatively few reports following renal transplantation. A 33-year-old man was admitted with diarrhea, fever, and epigastric pain 7 years following a cadaveric renal transplant. CT scanning confirmed a diagnosis of appendicitis which was removed within 24 hours of admission. Histology and blood cultures following surgery confirmed Salmonella type b appendicitis. Patient was safely discharged home 5 days following hospital admission.

1. Introduction

Acute appendicitis remains one of the commonest causes of an acute abdomen with an estimated 7% of the population developing it in their lifetime [1]. Salmonella is rarely associated with appendicitis but can cause it by direct invasion of the appendix, causing inflammation of the appendix, ileum, or lymph nodes [2]. However, appendicitis is very rare following renal transplantation because immunosuppression with corticosteroids is expected to prevent lymphoid hyperplasia [3]. We present a case of Salmonella appendicitis in a renal allograft recipient.

2. Case Report

A 33-year-old man received a renal allograft from a cadaveric donor on February 5, 1999. The kidney was placed in the right iliac fossa. Maintenance immunosuppression was tacrolimus 4 mg twice daily and prednisone 10 mg once daily.

On August 10, 2006, he presented with a 1-month history of diarrhea and a 6-day history of fever, epigastric pain, and vomiting. The pain was a burning sensation across the LUQ radiating to the back with associated bile-stained vomitus. On examination, he appeared dehydrated with stable vital signs apart from pyrexia of 104.2°F. Abdominal examination elicited tenderness over the RLQ area with normoactive bowel sounds and no flank tenderness. His abdomen was soft with associated guarding and rebound.

Laboratory tests showed a normal white count (8,500/mm³) with a mild left shift in the neutrophil bands and a slight increase in his creatinine (2 mg/dL) from baseline.

The CT scan suggested appendicitis, and patient was scheduled for a laparoscopic appendectomy with possible conversion into an open procedure.

On open laparotomy, we found a grossly inflamed appendix with no signs of perforation or abscess formation. Postoperatively, histology of the specimen and blood cultures confirmed Salmonella group b bacteria infection. This was successfully treated with antibiotics, and patient was discharged home 5 days later.

3. Discussion

Following renal transplantation, gastrointestinal complication is the second most common event after infection [4]. Significant mortality as high as 60% has been described in the literature [5].

The estimated lifetime risk of developing appendicitis in the general population is about 8.6% for males and 6.7% for females [6]. Its etiology has been proposed to be due to hyperplasia of the lymphoid follicles and obstruction of the appendiceal lumen [3].

The incidence of Salmonella infection in renal transplant recipients ranges from 0 to 5%, varying according to species that are endemic in the community [7]. Once the organism enters the alimentary tract and disseminates through blood or lymphatics, invasion into Peyer’s patches and mesenteric lymph nodes results in any combination of inflammatory sites [8].

However, immunosuppression with steroids will be expected to diminish lymphoid hyperplasia with obstruction...
of the appendiceal lumen less likely in the renal allograft recipient [9].

This case is to our knowledge the first reported case of Salmonella appendicitis in a renal transplant recipient.

Delay in diagnosis of significant and serious intraabdominal pathology in immunosuppressed patients is believed to be related to masking of peritoneal irritation by the anti-inflammatory effects of steroids [10]. In contrast, our patient had clear evidence of peritonitis, and there was little difficulty in making a diagnosis of a surgical emergency.

In conclusion, appendicitis remains rarely reported in renal transplant patients, and a high index of suspicion with appropriately timed surgical intervention will allow for successful treatment of this surgical emergency.

References
