Case Report

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Gastrointestinal Tuberculosis in a Renal Transplant Recipient Presenting with Intestinal Perforation

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Abstract

Tuberculosis is more prevalent among renal transplant recipient than general population. Immunosuppressive drugs and corticosteroids are the most important causes of the disease. Although extra pulmonary tuberculosis constitute about 40% of the cases pulmonary tuberculosis is the most common clinical presentation. Isolated gastrointestinal tuberculosis is rare in these patients. This study presents a case of intestinal tuberculosis in a renal transplant recipient who died of intestinal perforation. Another interesting point of the case is development of tuberculosis after 18 years of transplantation. Previous studies showed the median interval of 18 months. The patient had received long-term immunosuppressive drugs as well as corticosteroid.

Introduction

Tuberculosis is an important cause of morbidity and mortality among renal transplant recipients. Previous studies show that incidence of tuberculosis in transplant recipients is 35 to 75 times more than normal population [1, 2]. The disease has presented more commonly about 2 years after transplantation with a median interval of 8 months. Also about 56% of cases have diagnosed in the first year of transplantation [3].

The disease prevalence is different around the world. In the Europe and North American countries the prevalence is 0.35 to 5% while in the India it is up to 13% [4]. The clinical presentation of tuberculosis in renal transplant recipient is vague and sometimes unusual, so, this may cause a delay in diagnosis. In addition to immunosuppressive drugs and corticosteroids there are few other predisposing factors include: viral hepatitis, Diabetes mellitus, cytomegalovirus infection, nocardiosis and systemic lupus erythematosus [8].

Case presentation

The patient is a 59 years old lady from Shiraz. She received renal transplantation about 18 years ago after a course of chronic renal failure. In the last admission she presented with high grade fever and headache. After complete physical examination and routine laboratory tests, abdominal sonography, chest x-ray and CT scan of paranasal sinuses performed. The results of imaging were normal. CBC showed WBC: 8.2×10^9/L, Hb: 15 g/dl, Hct: 32%, Plt: 210×10^9/L, PMN: 55%, Lymph: 40%, Mono: 3% and Eos: 2%. We had not patient permission for lumbar puncture and CSF analysis was not done. Laboratory tests for HIV infection were negative. Patient was febrile regardless of broad spectrum antibiotic therapy. PPD test showed 15 mm induration.

In the hospital course abdominal pain and distention were added to previous symptoms. Surgical consultation done and after examination and review of the paraclinical results, functional obstruction diagnosed. The surgeon suggested mesenteric lymph node biopsy. Gross examination of a 2x1x1 cm lymph node showed areas of caseative necrosis. The histopathological examination of H&E slides revealed many granulomas with central caseation. Ziehl-Nelson staining showed many acid fast mycobacteria (Fig. 1).

Polymerase Chain Reaction and culture on selective media performed and the diagnosis of mycobacterium tuberculosis confirmed. In the next day patient condition became worsen. She developed severe abdominal pain and finally laparatomy performed for her. There was extensive peritonitis due to ileocecal perforation.

Colectomy done and post operation anti-tuberculosis treatment started but unfortunately the patient died of sepsis and widespread organ failure. Pathological study of colon also showed chronic granulomatous inflammation with areas of caseative necrosis

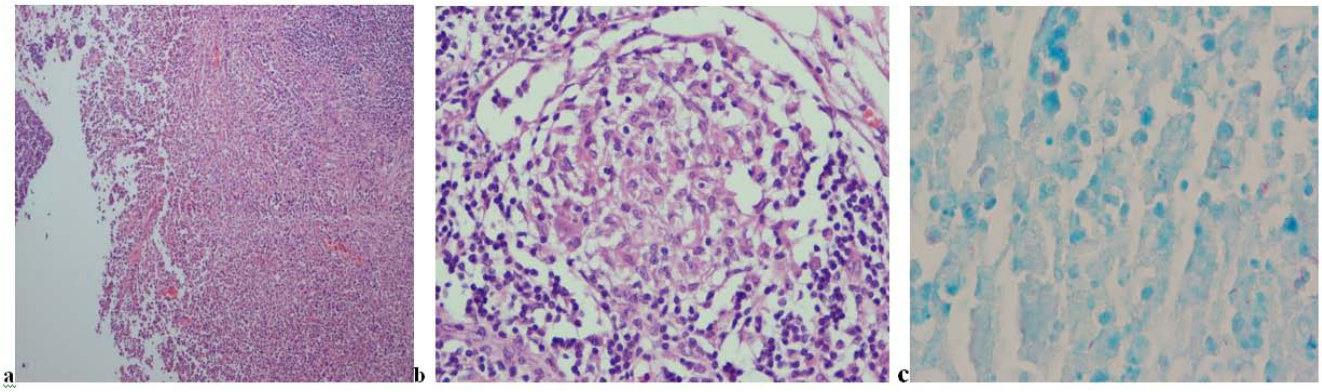

Fig 1. a- lymphohistiocytic infiltration in mesentric lymph node, H&E ×100 b- Granuloma with epitheloid histiocytes and lymphocytes, H&E ×400 c- Typical mycobacteria, Ziehl-Nelson ×1000

Discussion

The incidence of tuberculosis in renal transplant recipients is different worldwide. The condition depends on the disease prevalence and more common in endemic areas. Zhang et al. studied 1947 cases of renal transplant in china. They found 28 (1.83%) patients with tuberculosis. Most of their cases developed tuberculosis after 1 year of transplantation [4]. The major etiologic factors for the development of tuberculosis were been immunosuppressive and corticosteroid drug adminstration[5]. Other studies showed that pulmonary tuberculosis is the most common form seen in transplant recipients. Extrapulmonary tuberculosis constitutes about 40% of the cases. Isolated gastrointestinal tuberculosis is a rare entity in these patients [4-6]. Ersan et al. studied 320 renal transplant cases in the turkey since 1992 to 2010 and found about 2.8% prevalence rate. The median interval time between transplantation and tuberculosis was been 21 months. The most common clinical findings were fever and cough with 77% and 66% incidence rate respectively [7]. Mojahedi et al. studied 508 cases of renal transplant recipients in Mashad since 1989 to 2006. All of their patients have received immunosuppressive drugs. 9 (1.77%) patients developed tuberculosis after transplantation. The most common symptoms were been fever, cough, dyspnea and lymphadenopathy [8]. Yazdani et al. in another study in Esfahan on 700 patients showed tuberculosis in 10 patients. Median age of involved cases was 37.9 years and they developed the disease after a median interval of 15.7 months of transplantation. The most common form of organ involvement was been pulmonary tuberculosis [9].

In the present study we reported a case or renal transplant recipient who died of perforated ileocecal tuberculosis. Although the previous studies showed a median interval of 1-2 years between transplantation and tuberculosis, this case had 18 years interval time. Ileocecal perforation due to tuberculosis was been another unusual and interesting fact about this case. Clinical suspicion is mandatory for early diagnosis of tuberculosis in renal transplantation. It is especially important because immunosuppressive drug interactions can obscure the symptoms. Tuberculosis could be diagnosed by the use of AFB, selective media cultivation and PCR in those complicated patients.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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