



An Unusual Case of Recurrent Urinary Tract Infection Secondary to Prostatic Abscess in a Patient with Cirrhosis Undergoing Liver Transplantation

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Abbreviations

UTI, Urinary tract infection.

NASH, Non-alcoholic steatohepatitis.

MELD, Model for end stage of liver disease.

MR, Magnetic resonance imaging.

USG, Ultrasonography.

HIV, Human immunodeficiency virus.

NAFLD, Non-alcoholic fatty liver disease

Key Words- Liver cirrhosis, prostate abscess, Urinary tract infections

Case Report

Urinary tract infections (UTI) are commonly seen in patients with liver cirrhosis. Although, urethritis and cystitis are common but acute bacterial prostatitis is less commonly seen in these patients. Bacterial infections are common cause of increased morbidity and mortality and can led to decompensation and acute on chronic liver failure in patients with liver cirrhosis. Prostate abscess is uncommon complication of acute bacterial prostatitis in this antibiotic era. Prostatic abscess is difficult to diagnose and required low threshold of suspicion because of low incidence rate and non-specific clinical sign and symptoms. There are only a few reported cases of bacterial prostatic abscess in liver cirrhosis patients. [1, 2] Here, we are discussing a rare clinical case of acute bacterial prostatic abscess with rectal varices in a patient with decompensated liver cirrhosis who was awaiting liver transplantation.

A 58-year-old male patient presented to our centre with non-alcoholic steatohepatitis (NASH) related decompensated cirrhosis. Patients had jaundice, ascites and coagulopathy with MELD and Child Turcotte Pugh score of 31 and 13 respectively. He needed an early liver transplant in view of advanced liver cirrhosis. Patients had one week history of dysuria and fever. Two months ago, he had developed spontaneous bacterial peritonitis and left lower limb cellulitis which were successfully treated with appropriate antibiotics. During this presentation, his urine routine examination was suggestive of UTI for which he was treated with oral antibiotics. After initial relief he again had recurrence of symptoms with high grade fever and perineal pain for which further evaluation was done in our hospital.

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Ultrasonography showed prostatomegaly with possibility of abscess. For confirmation MRI pelvis was done that revealed a large left lobe prostate abscess (figure 1). Patient underwent USG guided transrectal drainage of prostatic abscess. Culture of exudative fluid from the abscess showed klebsiella pneumoniae and patient was treated with intravenous antibiotics accordingly. Two days after the abscess drainage he had significant bleeding per rectum due to inadvertent injury of rectal varix (Figure 2A and 2B). Sigmoidoscopy revealed multiple large rectal varices and oozing from the site of transrectal pus drainage. Cyanoacrylate glue was injected in bleeding varix under endoscopic guidance. After drainage of abscess and antibiotics intervention patient symptoms resolved and repeat imaging showed resolved abscess. Four weeks after the abscess drainage, patient finally underwent a successful right lobe living donor related liver transplant, the donor being his son. He had a smooth recovery in post-operative course and was discharged in good condition. Donor also had uneventful recovery.

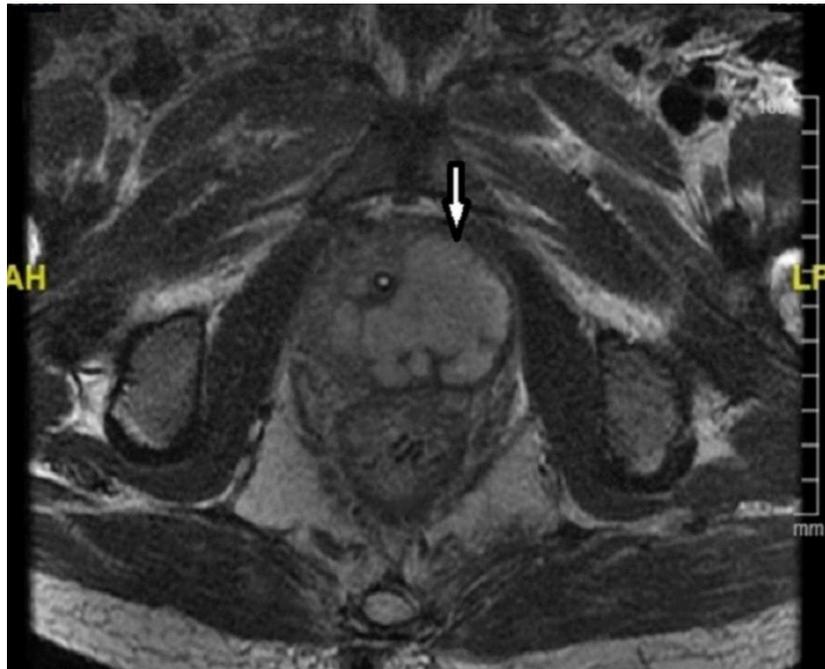


Figure 1. Enlarged prostate with large abscess (arrow) in left side of the prostate gland extending to right side causing capsular bulge



Figure 2 A and 2 B – MRI Pelvis showing rectal wall varices (Arrow).

Discussion

Although prostatic abscess is a rare complication in current era of antibiotics, patients who are not treated for acute prostatitis appropriately are at high risk of developing abscess. [3] Some of the known predisposing condition for prostatic abscess are diabetes, immunocompromised state including HIV patients, urinary tract instrumentation, benign prostatic hyperplasia and end stage renal disease. [4] Although association between diabetes and prostatic abscess has been described, there are only few published cases of prostatic abscess in liver cirrhosis. Non-alcoholic fatty liver disease (NAFLD) has been shown recently to have high risk of prostatic disease. Insulin resistance and metabolic aberrations are considered to be the potential mechanism for such association. [5] A series of studies by Russo et al showed that patients suffering from benign prostatic hyperplasia and lower urinary tract symptoms had more severe prostatic inflammation in presence of metabolic syndrome. The potential increase in the risk of prostatic inflammation in presence of a metabolic syndrome, may be the area for potential multicenter studies. [6–8] On the contrary, there is some evidence that liver cirrhosis patients may be more resistant to prostatic abscess because of hormonal imbalance. [9]

Importance of timely diagnosis and prompt treatment of bacterial infection cannot be overemphasized in patients with liver cirrhosis. Bacterial infections can lead to rapid clinical deterioration of patients resulting in acute decompensation, hepatic encephalopathy and acute on chronic liver failure thereby contributing to increased mortality in these patients. Our case highlights the importance of keeping

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low threshold of suspicion to diagnose prostatic abscess in patients with cirrhosis who present with urinary tract infection.

In this case another clinical dilemma was whether to go ahead or not with liver transplant in presence of urinary tract infection and large prostatic abscess. However, given the urgency of liver transplant we decided to take the patient for liver transplant after drainage of abscess as infection was under control with antibiotics and drainage of the prostatic abscess. To best of our knowledge, this is the first reported case of prostatic abscess with rectal varices which was successfully managed with abscess drainage and antibiotics, and patient ultimately had successful liver transplantation.

This case signifies the importance of thorough evaluation of recurrent UTI in cirrhosis to avoid missing an occult infection such as prostatic abscess. Patients with liver cirrhosis who do not respond to initial empirical therapy for UTI, should undergo cross-sectional imaging. Although rare but UTI can be complicated by prostatic abscess in these patients. Prostatic abscess drainage should be done carefully under image guidance in patients with liver cirrhosis as rectal varices can be injured during aspiration.

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