



URINARY TRACT INFECTIONS IN RENAL TRANSPLANT RECIPIENTS – A CASE REPORT

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Article Info	ABSTRACT
<p>Received 15/02/2015 Revised 27/02/2015 Accepted 02/03/2015</p> <p>Key words: Urinary Tract Infections, Renal Transplant, Renal tuberculosis.</p>	<p>The renal transplantation has provided more survival rates due to advances in surgical technique, medical management and immunosuppressive therapy. Infection and allograft rejection, which are related by immunosuppressive therapy, are the major causes of morbidity and mortality. In this case studies a 57 yrs old male post renal transplantation of 4 years duration presented with chief complaints of hematuria, burning micturition, frequency of urination, irregular fever, and decreased food intake of 2 weeks duration. The patient was known case of diabetes mellitus type II and hypertension. Patient was admitted for further evaluation and management. The patient blood was collected and sent for PCR-CMV DNA Viral load report. Renal allograft biopsy done and sample sent for histopathology evaluation. During the hospital stay, patient was treated with IV fluids, IV antibiotics, analgesics, antipyretics and other supportive therapy.</p>

INTRODUCTION

The survival rates following renal transplantation have greatly improved due to advances in surgical technique, immunosuppressive therapy, and medical management. Complications such as infection and allograft rejection, which are related by immunosuppressive therapy, remain major causes of morbidity and mortality following renal transplantation.¹

Urinary Tract Infections in Renal Transplantation

Urinary tract infection (UTI) is the most important bacterial infection in renal transplant recipients[3]. Pathogens causing UTI in renal transplant recipients are enterococci, staphylococci, and *P. aeruginosa*, [2]. *Corynebacterium urealyticum* has been identified as pathogen causing post transplant UTI.[4] *M tuberculosis* is an particularly challenging pathogen. [5]. Renal transplant recipients having the high risk for genitourinary infections. Tuberculosis affects 15% to 20% of renal allograft recipients. And also the risk is greater in those with hyperglycemia and chronic hepatitis, respectively.[6].

Case report

A 57 yrs old male post renal transplantation of 4 years duration presented with chief complaints of hematuria, burning micturition, frequency of urination, irregular fever, and decreased food intake of 2 weeks duration. The patient was known case of diabetes mellitus type II and hypertension. Patient was admitted for further evaluation and management. The patient blood was collected and sent for PCR-CMV DNA Viral load report. Renal allograft biopsy done and sample sent for histopathology evaluation. During the hospital stay, patient was treated with IV fluids, IV antibiotics, analgesics, antipyretics and other supportive therapy.

Physical examination:

General examination:

Upon admission pulse rate was 98/min, blood pressure was -130/80 mm/Hg, respiratory rate was found to be -20/min and Temperature is -100° F.



Systemic examination:

RS: Bilateral air entry adequate.

CVS: S1+, S2+

P/A: Soft, BS+

CNS= No focal neurological deficit.

Laboratory reports:

Haemoglobin – 13.90 gms%

Creatinine – 1.50 mg/dL.

Sodium – 132.60 mmon/L.

Potassium – 4.99 mmol/L

Chlorides – 99.40 mmol/L.

HBsAg- Non reactive.

Anti HCV- Non reactive

HIV – Non reactive.

Culture Test:- No bacterial growth in blood.

PCR for adenovirus, urine for deco cells are absent.

Radiology examination

As per radiology reports which is done by real time ultrasonography of abdomen and pelvis showed the following findings,

- Liver 14.1 cms, normal in size with increased echotexture. No focal lesions. No IHBR/CBD dilatation, portal vein is normal.
- Spleen 13.4 cms, enlarged in size with normal echotexture. No focal lesions seen.
- Pancrease normal in size and echotexture. No calcification seen. No peripancreatic collections.
- Right kidney measures 8.3x3.5 cms and Left kidney measures 9.0x3.0 cms. Both native kidneys are normal in size with increased echotexture and thinned out parenchyma. Cortico medullary differentiation is made out. No calculi. No evidence of hycironephrosis.
- Transplant kidney noted in right iliac fossa measuring 11.5x7.3 cms –Normal in size and echotexture, showing normal vascularity and velocities. Parenchymal thickness 15 mm.
- There was significant perinephric and perireteric stranding seed extending to adjacent pelvic fat.
- Urinary bladder is empty and partially distended with mild mural thickening.
- Prostate is enlarged in size with normal echotexture. Vol: 48.3 cc.
- No free fluid noted in the abdomen.

- There is no evidence of any significant lymphadenopathy in the para aortic areas.
 - Small intramuscular lipoma seen in right thigh between adductor brevis and magnus muscle. (3.7x5.3)
 - No evidence of ascites.
 - Visualised bones and soft tissues are normal.
 - Mild subpleural fibrotic changes with dependent densities bilateral lower lobes.
- As per radiology report suggests the following,
- Grade I fatty liver.
 - Cholethiasis.
 - Mild splenomegaly.
 - Transplant kidney in right iliac fossa showing normal velocities and RI.
 - Grade I prostatomegaly.

Histological examination

Renal allograft biopsy (linear bit measuring 1 cm) done and sample sent for histopathology evaluation. As per microscopic examination, the sections showed tubulointerstitial tissue. There are groups of epithelioid cells forming granulomas. Center of granulomas have collections of neutrophils. These granulomas are centered around tubules with disruption of tubular basement membrane. Tubular epithelial cells are large with occasional smudged nuclei. There is edema of interstitium. There is hyaline arteriolar sclerosis. C4d is negative. Stains for AFB and fungi are negative.

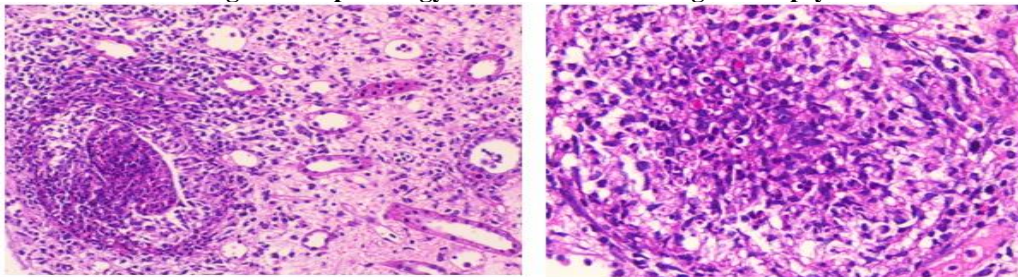
Diagnosis from histological examination

Granulomatous tubulointerstitial nephritis – Graft biopsy, which indicates possibilities of adenovirus infection or tuberculosis.

Recommendations at discharge

- Tab.Urishpas 1 tab per orally twice daily.
- Inj. Insugen – R 30 units before breakfast, 30 units before lunch, and 30 units before dinner.
- Inj. Human mixtard 30/70 subcutaneously 40 units before breakfast & 40 units before dinner.
- Tab. Onglyza 5 mg once daily at 1 pm.
- Anti tuberculosis drugs.
- Continuing immuno suppressive therapy.

Fig 1. Histopathology Studies on Renal allograft biopsy



CONCLUSION

Tuberculosis is the commonest cause of hematuria in the later period of transplant compared to adenovirus, BK virus, CMV virus and malignancy. These are common in early period, because of high dose of

immunosuppressive therapy required. After the 1 year post transplant patient with diabetic when the dose of immunosuppressive therapy is in less intense. The patient was asymptomatic and renal function improved after 1 month of anti tuberculosis medication.

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