

# Invasive Aspergillosis in Post Kidney Transplant Patient: A Case Report

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Invasive aspergillosis affects people who have weakened immune systems, such as people who have had a stem cell transplant or organ transplant, are getting chemotherapy for cancer, or are taking high doses of corticosteroids [1]. Invasive aspergillosis has been described among hospitalized patients with severe influenza [2]. Invasive aspergillosis needs to be treated with prescription antifungal medication, usually Voriconazole. Other antifungal medications used to treat aspergillosis include lipid Amphotericin formulations, Posaconazole, Isavuconazole, Itraconazole, Caspofungin, and Micafungin. Whenever possible, immunosuppressive medications should be discontinued or decreased. People who have severe cases of aspergillosis may need surgery. Invasive aspergillosis (IA) is a leading cause of opportunistic infections in immunocompromised patients [3].

## CASE REPORT

A 44 year old male patient, k/c/o CKD- s/p renal allograft recipient, hypertension, type 2 DM, CAD, seizure disorder and history of cold abscess secondary to TB lymphadenitis on ATT. On regular follow up in the transplant OPD complained of left sided facial and ear pain.

On examination in ENT department, fungal material was noted in the nasal cavity which was sent for KOH mount and fungal culture and advised to start Voriconazole (antifungal). He was admitted in the department of nephrology. He was

## ABSTRACT

Invasive aspergillosis (IA) is a rapidly progressive, often fatal infection that occurs in patients who are severely immunocompromised. Though IA remains rare, new reports shows that the illness is becoming more prevalent. Faster detection of infectious agent and use of right antifungal is very necessary to prevent further complications. In this case, a forty four year-old male with k/c/o CKD- s/p renal allograft recipient complained of left sided facial and ear pain during follow up. This case report study has been presented for the consideration of the growing prevalence of this condition in renal transplant patients.

**Keywords:** Invasive Aspergillosis, Voriconazole, immunocompromised

## INTRODUCTION

Aspergillosis is a disease caused by a fungus (or mold) called Aspergillus. The fungus is very common in both indoors and outdoors. Most common species include *Aspergillus fumigatus* and *A. flavus*. Less common species include *A. terreus*, *A. nidulans*, *A. niger*, and *A. versicolor*.

### Types of aspergillosis:

- Allergic bronchopulmonary aspergillosis (ABPA)
- Allergic *Aspergillus* sinusitis
- Aspergilloma
- Chronic pulmonary aspergillosis
- Invasive aspergillosis
- Cutaneous (skin) aspergillosis

started on IV Voriconazole (2 doses) followed by oral Voriconazole. CT PNS was taken which revealed mucosal thickening in bilateral maxillary and ethmoid sinuses, deviation of nasal septum to left side with bony spur and mucosal thickening with air bubbles in left nasal cavity. KOH mount came as positive and fungal culture showed growth of *Aspergillus nidulans*. ENT review was sought and advised FESS. One pint PRBC was transfused prior to the procedure. After obtaining fitness for surgery, he underwent FESS (Functional Endoscopic sinus surgery) with left ear sebaceous cyst excision under GA. Post operatively; he was noted to have decreased urine output and slightly worsening RFT, which later improved. The following Immunosuppressants were kept on hold (Tacrolimus and Mycophenolate Mofetil) and dose of Prednisolone was reduced. He was then started on nasal wash with Amphotericin B. LFT was closely monitored, INH and Ethambutol was restarted and continued in view of cold abscess secondary to tuberculosis lymphadenitis. Serum creatinine levels showed an improving trend, the patient improved symptomatically and discharged with advice to continue oral Voriconazole (200 mg) for total of 6 weeks.

Important investigation results of the patient were as follows. Fasting blood sugar: 459 mg/dl. Urea: 66 mg/dl. Creatinine: 1.7 mg/dl. Sodium (plasma): 129 mol/L. Potassium (plasma): 5.1 mol/L.

**DISCUSSION**

Invasive aspergillosis incidence is low in kidney transplant although potentially lethal<sup>[4]</sup>. Notable changes in the epidemiologic characteristics of this infection have occurred; these include a change in risk factors and later onset of infection. Over 30 million people are at risk of invasive aspergillosis each year because of corticosteroid or other therapies, and over 300,000 patients develop it annually. Worldwide, at least 125,000 of these cases are in COPD. The range of organisms to be considered is not the usual bacteria and viruses, but more unusual pathogens like fungi<sup>[5]</sup>. The effect of the newly introduced pathogens is particularly threatening in transplant patients and other immune-suppressed hosts<sup>[6]</sup>. Application GM test that detects existence of antibodies against *Aspergillus* antigens and usage of different type of immunosuppressive preparation can increase longevity of graft and patients in solid organ transplantation program<sup>[7]</sup>.

**CONCLUSION**

Early diagnosis and prompt treatment is often successful but unfortunately the diagnosis is frequently made late and patients may die. The status of the underlying disease is important in recovery, as continuing immunodeficiency is problematic. Without treatment the mortality rate exceeds 99%. The best outcomes are in leukaemia patients (30%), but outcomes are worse in other blood malignancies and immunodeficiencies. The timely detection and management helped this patient to improve symptomatically. This case report provides an extra weightage to the benefits of Voriconazole in the treatment of invasive aspergillosis.

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