



MUCOR UNDER THE MASK OF MALIGNANCY IN GENITOURINARY SYSTEM IN POST-COVID-19 PATIENT

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ABSTRACT

The fungal infection clinically referred to as mucormycosis also zygomycosis are common infections to humans where causative agent i.e., Mucoromycotina is a member of mucorales. Patients with coronavirus disease (COVID-19), which can be associated with significant and sustained lymphopenia compromising the immune system, especially in the most severe cases resulting in post-covid mucormycosis infection. In our article, we are presenting a unique case of Post-Covid-19 mucormycosis affecting the genito-urinary system.

Initially it was diagnosed as a case of malignant lesion of urinary bladder on ultrasound. But after cystoscopic biopsy, it was diagnosed as a case of mucormycosis of genitourinary system in post-COVID-19 patient.

KEYWORDS : mucormycosis, COVID-19, fungal, Diabetes mellitus, Genito-Urinary

INTRODUCTION

The fungal infection clinically referred to as mucormycosis also zygomycosis are common infections to humans where causative agent i.e., Mucoromycotina is a member of mucorales.(1) Mucormycosis frequently infects the sinuses, brain, or lungs. Uncontrolled sugar disease is a focal point in accelerating mucormycosis. (1) Patients with coronavirus disease (COVID-19), which can be associated with significant and sustained lymphopenia compromising the immune system, especially in the most severe cases resulting in post covid mucormycosis infection. (1) There is an increase in the incidence of mucormycosis in post-COVID-19 infection patients predominantly Rhino-Orbital-cerebral mucormycosis.(2)

In our article, we present a unique case of mucormycosis infection of the genito-urinary system in a post-covid-19 infected patient.

Case Report

A 60 year old female patient was diagnosed with COVID-19 (Fig.1) and treated according to the persisting protocols. Following recovery, on the 13th day, the patient developed pain in the abdomen in the right iliac region. The patient was a known case of Diabetes mellitus Type 2 for past 12 years.



Fig.1

Imaging findings

On Ultrasonography (Fig.2) urinary bladder is well distended. There is a single ill-defined irregular heterogeneously hypoechoic mass lesion measuring approximately 17 X 16 mm noted at the right vesico-ureteric junction with minimal vascularity within. The lesion is causing secondary right sided hydronephrosis. Features suggestive of neoplastic lesion of urinary bladder.

On MDCT (Fig.3), mild circumferential mucosal thickening involving the right distal ureter, extending from the level of S1 vertebral body upto the vesico-ureteric junction causing narrowing at the vesico-ureteric junction with resultant moderate retrograde hydronephrosis and hydronephrosis, is likely suggestive of neoplastic etiology however cystoscopy and histopathology correlation needed.

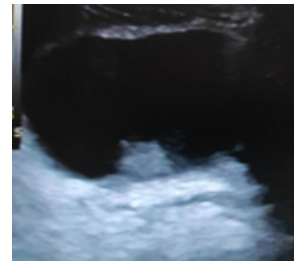


Fig.2

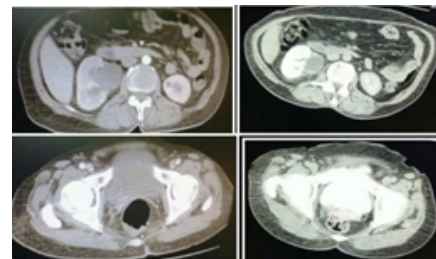


Fig.3

On Cystoscopic histopathological examination (fig.4) Fungating growth at vesico-ureteric junction is seen. Abundant fungal hyphae are seen. The fungal hyphae are broad, short, non septate, showing irregular branching at right angles. Dense neutrophilic infiltrate is seen. Features suggestive of Post-Covid mucormycosis.

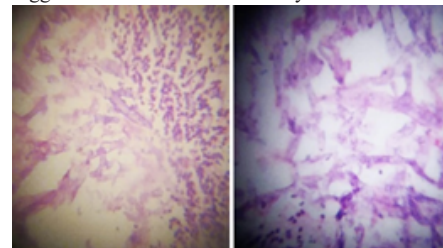


Fig.4

On MRI (fig.5), Normal uptake but staggered excretion of contrast by right kidney due to multiple hypointense filling defects in distended Pelvi-calyceal system and ureter. Right ureter also shows wall thickening and enhancement. Mild right hydronephrosis secondary to a 8 x 10 mm poorly enhancing mass lesion at right vesico-ureteric junction favoring right pelvicalyceal system, Ureter and Bladder Mucormycosis. Normal uptake and excretion of contrast by left kidney.

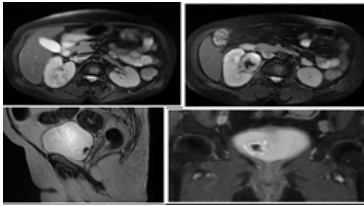


Fig.5

DISCUSSION:

Mucormycosis is an opportunistic infection by fungus of the Mucorales order, which disseminates hematogenously from an entrance. Diagnosis is usually histological, seeing characteristic hyphae and ischemic or hemorrhagic necrosis.(4) COVID-19 is associated with a significant incidence of secondary infections, both bacterial and fungal probably due to immune dysregulation. Additionally, the widespread use of steroids/monoclonal antibodies/broad-spectrum antibiotics as part of the armamentarium against COVID-19 may lead to the development/exacerbation of pre-existing fungal diseases.(3) Majority of mucormycosis cases reported in the literature are predominantly causing Rhino-Orbital-cerebral mucormycosis. Our case of mucormycosis is unique involving genitourinary system. Treatment is based on the combination of debridement of the necrotic areas and intravenous antifungal drugs (amphotericin B).(4)

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