ORIGINAL RESEARCH PAPER

Pathology

DIAGNOSTIC DILEMMA IN RENAL TRANSPLANT COVID-19 POSITIVE PATIENT - A CASE REPORT

KEY WORDS: Covid 19, Mucormycosis, Spleen

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ABSTRACT

INTRODUCTION: Covid 19 infection is caused by SARS-COVID virus and responsible for pandemic in 2020. Most common signs and symptoms include fever, cough, lower respiratory tract infection etc.

CASE REPORT: A 51 year old male patient, a known case of diabetes, hypertension and chronic renal disease with renal transplant 3 years back and on immunosuppressive drugs was complaining of high degree fever, myalgia, fatigue, abdominal pain, more over the left upper abdomen. USG shows Hypoechoic collection in the inferior pole of spleen measuring 5x6cm with mild perisplenic collection, suggestive of splenic abscess. The patient had undergone emergency laparotomy of splenectomy. On histopathology, refractile, aseptate, broad angle fungal hyphae suggestive of Mucormycosis. PAS stain was Positive.

DISCUSSION: Spleen is a rare site for fungal infection. With superadded COVID 19 infection and bilateral basal consolidation in the lungs, the underlying splenic lesion will be confused as part of thromboembolic episodes rather than fungal infection. Hence, delay in treatment of antifungal drugs will lead to mortality in such cases.

CONCLUSION: In COVID 19 infections, the rare manifestation of fungal infection to be considered while treating the immunosuppressive patients.

INTRODUCTION:

Covid 19 infection is caused by SARS-COVID virus and responsible for pandemic in 2020. Most common signs and symptoms include fever, cough, lower respiratory tract infection etc[1,2]. Mortality in COVID-19 is most common in elderly individual with comorbid conditions like diabetes, hypertension, myocardial infarction etc. [3,4]. Hereby, we are presenting a rare case report of COVID 19 infection in a renal transplant patient.

CASE REPORT:

A 51 year old male patient, a known case of diabetes, hypertension and chronic renal disease with renal transplant 3 years back and on immunosuppressive drugs was admitted in ICU.

Chief Complaints:

High degree fever, myalgia, fatigue, abdominal pain, more over the left upper abdomen. Examination- Tenderness in the left hypochondrium. Rapid antibody test for COVID19- positive for both IgM & IgG.

Usg- Abdomen:

Hypoechoic collection noted in the inferior pole of spleen measuring 5x6cm with mild perisplenic collection, suggestive of splenic abscess. Kidney: Bilateral small kidneys- grade III renal parenchymal changes.

Ct Scan- Abdomen:

Spleen: Non enhancement of spleen, suggestive of splenic infarct. Kidney: Bilateral small native kidneys. Bowel: Gaseous distension of the large bowel with minimal fat stranding in the caecal region, mild ascites, Lung: Bilateral basal small focal areas of consolidation with left basal pleural effusion.

The patient had undergone emergency laparotomy.

Intra-operative Findings:

Gangrenous Spleen, omentum, Gerota's fascia and Perinephric fat. Distal pancreas was sloughed out.

Gross specimen: Spleen measured 12 x9.5x2.5cm. Cut section: Necrotic appearance.

Fig No 1: Gross Image Of Necrotic Spleen

Microscopy: Diffuse loss of splenic architecture, completely replaced by necrotic tissue, calcified blood vessels and refractile, aseptate, broad angle fungal hyphae suggestive of Mucormycosis. PAS stain was Positive.

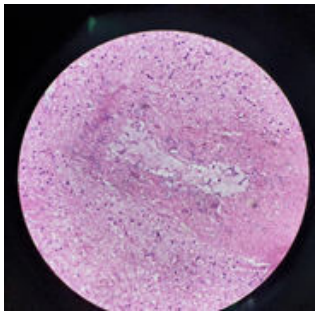

Fig No 2: Microscopy - Aseptate Broad Angle Fungal Hypahe (h&e Stain, 400x)

Hence final diagnosis of MUCORMYCOSIS INFECTION OF SPLEEN WAS MADE.

DISCUSSION:

Mucormycosis is an uncommon and fatal fungal infection. The hallmark of mucormycosis infection is tissue infarction and vascular invasion. During Covid-19 pandemic, there was rapid surge of mucormycosis infection with incidences more commonly seen in male patients. It is seen most commonly in recovery phases of Covid 19 infection. It is most commonly seen in patients who are Diabetic, hypertensive and any other co-morbid condition [5]. Mucormycosis is most commonly seen in rhino-nasal spaces, particularly sinuses. Patients with mucormycosis most commonly present with headache and fever, not relieved by regular treatment[6].

In patient with Covid and co-morbidities like Diabetes, Renal transplant on immune suppressive drugs, there is every possibility of disseminated mucormycosis infection. Thus in such patient rare sites also seen with mucor infection. Spleen is also one of the rare site which will lead to diagnostic dilemma.

The pathogenesis of mucormycosis infection is classical causing fungal thrombus and vascular occlusion leading to necrosis of end organs. Spleenic vessel is also one of the end artery, whose occlusion by fungal ball leads to necrosis of splenic parenchyma[7,8].

COVID-19 with mucormycosis in unusual site like spleen carries worst prognosis and timely detection saves the life of the patients. Antifungal therapy like intravenous Amphotericin B, Antibiotic with symptomatic treatment. Maintaining the saturation and aggressive surgical debridement remain key factor in the management of mucormycosis. But diagnostic dilemma always occurs when mucor occurs in unusual site in Covid 19 infective patients[9,10].

Thus, Spleen is a rare site for fungal infection. With superadded COVID 19 infection and bilateral basal consolidation in the lungs, the underlying splenic lesion will be confused as part of thromboembolic episodes rather than fungal infection. Hence, delay in treatment of antifungal drugs will lead to mortality in such cases.

CONCLUSION

In conclusion, In COVID 19 infections, the rare manifestation of fungal infection to be considered while treating the immunosuppressive patients.

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