Severe Manifestations and Treatment of COVID-19 in a patient with Fabry Disease

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Introduction

Fabry disease is an X linked disease caused by mutations in the GLA gene. The cardiovascular and renal systems are most affected in Fabry patients and often require heart or kidney transplants in the late stages of the disease. Due to the rarity of Fabry disease, the impact COVID-19 may have on patients with this comorbidity is unclear.

We report the case of a 67-year-old male with Fabry disease on migalastat, who developed severe manifestations of COVID-19. I

Case report

- 67-year-old male, diagnosed with classic Fabry disease at 44 years old
- Kidney failure—dialysis and renal transplant age 51 y
- Post-transplant diabetes mellitus type II
- Arthritis and osteoporosis
- Mild left ventricular hypertrophy
- Depression
- Bilateral sensorineural hearing loss
- Enzyme replacement therapy with Fabrazyme at the age of 49 y
- Had an amenable mutation for migalastat and transitioned to the oral chaperone therapy age 66 y.

COVID-19 diagnosis

- Fever, shortness of breath, cough, fatigue
- Intensive treatment comprised of remdesivir, dexamethasone, continuation of tacrolimus
- Intubation for hypoxic respiratory failure.
- CT showed a cavitary lesion caused by invasive bronchopulmonary aspergillosis.
Computed tomography of the chest
• diffuse ground glass opacities with patchy consolidations of bilateral lungs.

• Transition to hospice care
• Decision to withdraw life support

Autopsy findings
• COVID-19 pneumonia and secondary invasive bronchopulmonary aspergillosis with cavitary lesion formation.

H&E section from the lung infected with Aspergillus. This H&E-stained slide from one of the sections taken from the lung shows septated hyphae branching at 45 degrees.

Microscopy of the transplanted kidney. There is evidence of interstitial nephritis, which is shown here with the inflammatory cells working their way into the interstitium.

Appearance of a native kidney. The kidney was completely fibrosed and replaced with fibroadipose tissue. The renal parenchyma was completely atrophic.

One of the transplanted kidneys. Both kidneys had a similar appearance, where the renal parenchyma is beginning to atrophy, the majority of which has been replaced by fibroadipose tissue.
Conclusion

Overlapping manifestations of Fabry and COVID-19


Reference