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RESEARCH ARTICLE

CASE REPORT: UNEXPECTED OUTCOME IN PATIENT WITH LIVER TRANSPLANT WITH COVID 19 PNEUMONIA

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Abstract

Coronavirus disease-2019 (COVID-19) is a global pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The outcomes and severity of COVID-19 are dependent on comorbidities such as diabetes mellitus, cardiovascular diseases including hypertension, kidney disease, pulmonary disease, and age[1,2,3]Since December 2019, the whole world suffers from (SARS-CoV-2) that was declared by the World Health Organization (WHO) as a global pandemic on March 11, 2020[4]Liver transplant (LT) recipients, being immunosuppressed, are prone to severe infections [5]. Therefore, the presence of comorbidities and chronic immunosuppression may increase the risk of severe COVID-19 among liver transplant recipients [6],[7].

Introduction:-

A 62 year old female patient who underwent Liver transplant in 2016 due to liver cirrhosis secondary to Hepatitis C which was treated prior to liver transplant. She had medical history of Hepatorenal syndrome, HCC found during the liver transplant, Diabetes Mellitus type 2, Essential hypertension and morbid obesity. She was ondualimmunosuppression regimen consist of Tacrolimus (2mg BD) and Everolimus (0.75mg BD).

On 29 March 2020, the patient attended the Emergency department in Hatta hospital with feverwith no other complains. Her vital signs were within normal.Thenaso-pharengeal swab test for SARS-COV-2 was positive COVID19 PCR test was positive on admission. On admission she had mild Leukopenia (3.2 10^3/uL), Hemoglobin was (10.7 g/dl) and Platelet (158 10^3/uL), Impaired renal function (Creatinine 2 mg/dL, Urea: 60mg/dL), High LDH (265 U/L), normal Ferritin (175.9 ng/mL),mildly increased Procalcitonin (0.07 ng/mL) and C-Reactive Protein (2.8 mg/L),normal liver function test. Tacrolimus level (2.8 ng/mL), Blood and Urine cultures had no growth, Epstein-Barr Virus DNA PCR - Blood and Cytomegalovirus DNA PCR - Blood (all negative)**,** Blood sugars were controlled and HIV test was negativeHer initial Mobile chest x ray on admission showed increased bronco-vascular markingsas shown in (Figure 1)

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During her admission she developed dry cough and she was started on Hydroxychloroquine and Azithromycin.Her dual immunosuppression regimen was decreased to 1mg BD for Tacrolimusand 0.5 BD for Everolimus. The C-Reactive Protein rose to (16.7 mg/L) and her follow up Mobile chest x ray showed increased broncho-vascular markings as shown in (Figure 2).Meropenem was added and adjusted as per Renal function to cover Bacterial superinfections as advised by infectious disease speacilist. The patient's fever subsided and cough improved.

Figure 1:- (29/03/2020)

Figure 2:- (06/04/2020)

The patient was admitted on 29/03/2020 and discharged on 11/04/2020.we didNaso-pharengeal swab test for SARS-COV-2 twice on 07/04/2020 and on 10/04/2020 and the patient was discharged home. Liver function remained within normal, renal function slightly improved and patient condition improved with no more fever.

Discussion:-

Organ transplant recipients are vulnerable to multiple infectious agents and in a world with a circulating SARS-CoV-2 virus, it would be expected that patients who are immunosuppressed would have higher mortality[8].

However, it is currently recommended to lower the overall immunosuppression (especially anti-metabolites) in LT patients infected with COVID-19, similar to managing infections in transplant recipients to reduce the risk of superinfection [9],[10].

Kaletra was not added in the treatment of the patient because it has been documented to increase tacrolimus concentrations, putting the patient at risk of developing nephrotoxic and/or neurotoxic symptoms [14]

Result:-

The outcomes of COVID-19 in liver transplant (LT) recipients remain unclear, but giving the immunocompromised status of liver transplant patients, more intensive surveillance is necessary for all cases of COVID-19 infection[11].

In conclusion, patients with liver disease and transplant candidates are at risk from COVID-19. Unfortunately, Liver transplant recipients are a highly susceptible population; therefore, clinicians should have an understanding of the disease and take the essential precautions to ensure the safety of liver transplant recipients[12], [13].

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