

PEDIATRIC COVID-19 AND THE LIVER

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A mild rise in transaminases is common with COVID-19 disease but serious liver dysfunction is uncommon. The elevation transaminases is often accompanied by high creatine kinase and lactate dehydrogenase suggesting the possibility that viral myositis may also be the cause. Elevated liver enzymes are more common in those with severe spectrum of the disease (40-60%), compared to those who are asymptomatic or have mild disease (18-25%). Bilirubin levels are also more than double in those with severe infection, when compared to those with milder disease. This is probably related to virus triggered auto reactive T cells and cytokine storm. Though hepatocytes & biliary epithelium are abundant in angiotensin-converting enzyme 2 (ACE2) receptors, which is the same receptor that the virus uses for entering the lungs, there is no evidence of active replication of the virus in hepatocytes. Hypoxemia due to ARDS and drug induced liver injury (Remdesivir, Tocilizumab) are other possible causes for the abnormal LFT in patients.

Any child with COVID-19 disease and raised transaminases should be investigated for other causes of liver disease. Patients who are asymptomatic or have only mild disease, hospital visit is unnecessary and a tele or video consultation is sufficient. Newly diagnosed patients with Jaundice, AST/ALT > 500IU/L or recent onset hepatic decompensation should be evaluated in hospital. At present, there is no concrete evidence to show that COVID-19 co-infection causes significant worsening in patients with

underlying chronic liver disease. However evidence from the previous SARS COV epidemic suggests otherwise, but more data is required. Mild transaminitis in COVID-19 disease is not a contraindication for antiviral therapy, with regular monitoring of liver function.

Post-liver transplant patients, need particular emphasis on preventive measures like frequent hand washing, cleaning frequently touched surfaces and social distancing etc. As the cell injury in COVID-19 disease is thought to be immune mediated, immunosuppression and mycophenolate should not be reduced or stopped in asymptomatic post-transplant patients. In an established COVID-19 infection, continue calcineurin inhibitors targeting a lower trough levels and lower the dose of mycophenolate or azathioprine. Patients on high dose steroids, should have it reduced to a minimum dose based on body weight to prevent adrenal insufficiency.

References :

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