**Supplementary Table 3.** **Newer drugs being tried in the treatment of patients with COVID-19 and its possible effects on the liver**

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| --- | --- | --- |
| Drug | Class | Potential to cause DILI |
| Molnupiravir | **Antiviral**  Introduces copying errors during viral RNA replication of the SARS-CoV-2 virus | Seems rare  More data needed |
| Nitazoxanide | **Antiviral**  Thiazolide antiparasitic agent; inhibits replication of a broad range of respiratory viruses in cell cultures, including SARS-CoV-2 | Immunoallergic reactions leading to mild elevations of liver enzymes have been reported |
| Niclosamide | **Antiviral**  Anthelmintic agent that has potential use as an antiviral agent | Extremely rare |
| Rintatolimod | **Antiviral**  Toll-like receptor 3 agonist | Data needed to establish safety on liver |
| Bemcentinib | **Antiviral**  Oral AXL kinase inhibitor | Data needed to establish safety on liver |
| Umifenovir | **Antiviral**  Targets the spike glycoproteins of SARS-CoV-2 | Data needed to establish safety on liver |
| Plitidepsin | **Antiviral**  Belongs to the class of didemnins; targets EF1A, which is key to multiplication and spread of the virus | Transient transaminase elevations were frequent but achieved grade 3 or 4 in only 10% of patientss1 |
| VIR-2703 | **Antiviral**  Drug targets small interfering RNA which leads to gene silencing | Data needed to establish safety on liver |
| AT-527 | **Antiviral**  Purine nucleotide prodrug that inhibits RNA polymerase enzyme | Data needed to establish safety on liver |
| Trabedersen | **Antiviral**  Antisense oligonucleotide that inhibits transforming growth factor-beta 2 expression; inhibits Viral replication | Data needed to establish safety on liver |
| Apilimod | **Antiviral**  Inhibits the lipid kinase enzyme PIKfyve; interferes with the entry and trafficking of the SARS-CoV-2 virus | Data needed to establish safety on liver |
| Bamlanivimab | **Antiviral**  Neutralizing IgG1 monoclonal antibody directed against the spike protein of SARS-CoV-2; blocks viral attachment and entry | Data needed to establish safety on liver |
| Infliximab | **Immunomodulator**  Inhibits tumor necrosis factor | 1) Can cause elevation of aminotransferases and ALP; usually not severe and resolves in 4 to 12 weeks of stopping therapys2  2) Hepatocellular injury typically associated with autoimmune markerss2  3) Cholestatic injury, can arise as early as a few days to up to 24 weeks after starting therapys3  4) Liver injury due to reactivation of chronic hepatitis Bs4 |
| Abatacept | **Immunomodulator**  Prevents full activation of T cells | Aminotransferase elevations occur in 2% to 3% of treated patients, causing liver injury by triggering autoimmunity has been reported;s5 liver injury due to reactivation of chronic hepatitis Bs6 |
| Cenicriviroc | **Immunomodulator**  Blocks 2 chemokine receptors, CCR2 and CCR5 | Safety established from fatty liver studies; data needed to establish safety on liver in patients with COVID-19 |
| Bevacizumab | **Immunomodulator**  Anti-vascular endothelial growth factor; acts to decrease vascular permeability and pulmonary edema in patients with SARS-CoV2 | Reported to be safe but as the drug inhibits angiogenesis, it can potentially affect liver regeneration |
| Tradipitant | **Immunomodulator**  NK-1 receptor antagonist | Data needed to establish safety on liver |
| Sargramostim | **Immunomodulator**  Inhaled colony-stimulating factor; reduce the risk of secondary infection; stimulate alveolar epithelial cell healing during lung injury | Safe; occasional rise of ALP, but postulated to be from the bone instead of the liver |
| Remestemcel-L | **Immunomodulator**  Allogeneic mesenchymal stem cell; plays a role in downregulation of proinflammatory cytokines | Data needed to establish safety on liver |
| Ibudilast | **Immunomodulator**  Phosphodiesterases 4 and 10 inhibitor and a macrophage migration inhibitory factor inhibitor that suppresses proinflammatory cytokines | More data needed; occasional reports of GGT elevation noted with its uses7 |

AXL, anexelekto; CCR, chemokine receptor; EF1A, eukaryotic elongation factor 1A; GGT, gamma glutamyl transpeptidase; IgG, immunoglobulin G; MIF, macrophage migration inhibitory factor.

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