**Supplementary Table 4. Potential effects of anticoagulants on liver**

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| --- | --- | --- | --- | --- | --- | --- |
| **Drug** | **Usage** | **Onset of DILI** | **Frequency** | **Mechanism of hepatotoxicity** | **Pattern of DILI** | **Severity** |
| Warfarins1 | Not typically used as an anticoagulant in treating patients with COVID-19 | Usually within 3 to 8 weeks of starting therapy | 1-3% | Idiosyncratic | Typically cholestatic pattern Hepatocellular and mixed patterns reporteds2 | Usually mild to moderate in severity Resolves when therapy is stopped Rechallenge should be avoided |
| UFHs3 | Very commonly used | Usually within 4 to 8 days of starting therapy | Transient serum aminotransferase elevations in 10% to 60% of patients  Significant elevations in usually around 2% | Direct effect on hepatocytes | Typically hepatocellular | Usually mild elevations of liver enzymes which generally resolve fully within 4 to 10 days of stopping UFH |
| Enoxaparin, Dalteparins4 | Very commonly used | Usually within 3–7 days of starting therapy | Transient serum aminotransferase elevations in 4 to 13%  Significant elevations are much rare | Direct effect on hepatocytes | Typically hepatocellular | Usually mild elevations of liver enzymes which generally resolve fully after stopping therapy |
| Fondaparinuxs5 | Commonly used | Usually within 3–7 days of starting therapy | Low rate of serum aminotransferase elevations during therapy (1 to 3%) | Direct effect on hepatocytes  Can also cause idiosyncratic DILIs6 | Typically hepatocellular | Usually mild elevations of liver enzymes which generally resolve fully after stopping therapy |
| Rivaroxabans7 | Commonly used | Ranged from 2 to 180 days (median: 15 days)s8 | Associated with moderate ALT elevations (greater than 3-times the ULN) in 1.5-3% of patients | Idiosyncratic and perhaps immunologic | Usually hepatocellular pattern  Cholestatic and mixed patterns reported rarelys9 | Usually mild to moderate in severity Resolves when therapy is stopped |
| Apixabans7 | Commonly used | Usually within few days of treatment onset | Serum aminotransferase elevations greater than 3 times the ULN in 1-2% of treated patients | Due to production of a toxic or immunogenic intermediate.  Chance of drug interaction as the drug is metabolized in the liver predominantly via the cytochrome P450 system. | Usually hepatocellular patterns9 | Mild and usually self-limited after stopping the drug |
| Dabigatrans7 | Commonly used | Usually within few days of treatment onset | Associated with moderate ALT elevations (greater than 3 times the ULN) in 1.5-3% of patients | Idiosyncratic and perhaps immunologic | Usually hepatocellular pattern  Cholestatic and mixed patterns reported rarelys10 | Mild and usually self-limited after stopping the drug |

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