High sensitivity cardiac troponin (cTn) assays currently provide the best tool to detect subtle myocardial injury. More sensitive than myocardial imaging, it has been estimated that necrosis of 40 mg of myocardial tissue can be detected by high sensitivity assays, the equivalent of detecting one sugar cube dropped into Loch Ness. In severely ill patients, increased cTn may occur due to myocardial infarction, ischemic, or non-ischemic myocardial injury. Increased cTn has been reported in adults with severe Covid 19 infection *(1)*. As might be expected, cTn concentrations in these patients predict in-hospital death, and correlates strongly with cardiac comorbidities *(1)*. Conversely, Covid 19 infection in children is seen as a relatively benign condition with few, if any, significant adverse consequences. In this case report, Allali and colleagues described an unusual presentation of Covid 19 commencing with gastrointestinal symptoms and rash, progressing to multisystem inflammatory syndrome resembling Kawasaki disease. They demonstrated that measurement of cTn using a high sensitivity assay can be used to identify cardiac involvement, as well as monitor and guide treatment. The pathophysiology of Covid 19 associated myocardial injury is poorly understood. Significantly, a multicenter cardiovascular pathology study did not demonstrate disrupted coronary artery plaque *(2)*. In this study, multifocal myocarditis was identified in only 3 of 21 cases; 18 cases showed widespread interstitial macrophage infiltration of the myocardium, without clearly associated myocardial injury; and 16 cases had increased troponin concentrations. Although there was no significant difference between those with or without myocarditis, there was a trend towards higher cTn concentrations with documented myocarditis. However, the authors considered that the etiology of myocardial injury in Covid 19 patients is not predominantly a viral myocarditis, but rather reflects other pathophysiology, particularly the inflammatory state. Increased levels of C-reactive protein are a multivariate predictor of myocardial injury in Covid 19 infection *(1)*.

References

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