

Hepato-Pancreaticobiliary

COVID-19-related abdominal pain is associated with elevated liver transaminases, which could predict poor clinical outcomes

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Objective: Abdominal pain and liver injury have been frequently reported during Coronavirus Disease-2019 (COVID-19). In the setting of a systemic infection these features can induce misleading surgical diagnostics. Our aim was to investigate characteristics of abdominal pain in COVID-19 patients and its association with disease severity and liver injury.

Methods: Data of all COVID-19 hospitalized patients over 16 years old were retrieved from the beginning of the epidemic in Switzerland until end of June 2020. Patients admitted exclusively for other pathologies (including surgical abdominal conditions) and/or recovered from COVID-19, and pregnant women were excluded. Abdominal pain was linked to COVID-19 only after evident alternative diagnostic exclusion. Five times the upper limit of transaminases was considered as liver injury.

Results: Among the 1026 patients who fulfill the inclusion/exclusion criteria, 199 (19.4%) exhibited spontaneous abdominal pain and 165 (16.2%) after abdomen palpation. Systematized abdominal pain was most frequently localized in the epigastric (39.8%) and upper right quadrant (23.7%). Considering baseline ALT levels, 7.14% of patients with epigastric pain had pathological ALT value versus 0.29% of patients without symptoms ($p = 0.008$). When taking the 30days maximal transaminases value, this reached respectively 16.3% versus 2.7% ($p < 0.001$) and 20% versus 3.8% ($p < 0.001$) for respectively AST and ALT. With logistic regression we demonstrated that baseline pathological AST value was associated with hospital mortality and/or admission to intensive/intermediate care unit with an odds ratio of 13.9 (CI 1.5-124.7, $p = 0.019$).

Conclusion: These results suggest that COVID-19-induced abdominal pain is associated with liver injury which could predict poor evolution of disease.