

AB111. SOH22ABS203. Lactate dehydrogenase to alanine transaminase ratio a promising prognostic marker of pancreatic necrosis and a simple adjunct to assess disease severity of acute biliary pancreatitis in the Emergency Department

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Background: Acute pancreatitis (AP) is a common acute abdominal disease. Most patients with AP are managed conservatively, some develop pancreatic necrosis (PN) with a high rate of mortality. Prediction of severity using scoring systems includes both alanine transaminase (ALT) and lactate dehydrogenase (LDH) enzymes. LDH, a glycolytic enzyme, has been reported to increase under hypoxic conditions and could be an indicator of ischaemic. ALT is elevated in the course of AP because of acute liver cell injury caused by biliary stones. Raised LDH has a shorter half-life than ALT, resulting in earlier rise in serum levels. We hypothesized that an elevation of the ratio of LDH/ALT would reflect PN in AP.

Methods: A single centre retrospective observational study of consecutive adult patients admitted with a provisional diagnosis acute biliary pancreatitis between January 2020 and June 2021 was performed. Identified patients were divided based on their subsequent CT diagnosis: AP and necrotic pancreatitis. Patient demographics and blood results were retrospectively collected. LDH, ALT, C-reactive protein (CRP) levels were examined.

Results: A total of 120 patients were included in the study, the mean patient age was 49 years. Eighteen percent had a

diagnosis of PN. CT's was performed on average day 2.6 of admission. Mean LDH/ALT ratio was significantly higher in PN group (22.6; range, 8.95–71.1, standard deviation 13.2) compared to the AP group (6.29; range, 0.39–21.3, standard deviation 5.14). CRP levels were higher in the PN group but to less extent than the LDH/ALT ratio.

Conclusions: LDH/ALT levels predicted the presence of PN. The LDH/ALT ratio is a useful adjunct to CT in stratifying patients with AP and this simple laboratory biomarker can be implemented into clinical practice to optimise patient outcomes.

Keywords: Lactate dehydrogenase to alanine transaminase ratio (LDH to ALT ratio); acute pancreatitis (AP); necrotising pancreatitis; prognostic markers; acute biliary pancreatitis

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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