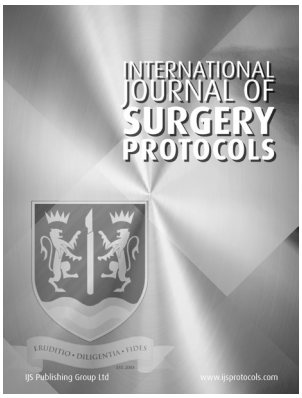

Diagnostic Inflammation Biomarkers for Prediction of 30-Day Mortality Rate in Acute Cholangitis

PROTOCOL

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ABSTRACT

Background: Acute cholangitis (AC) is an acute inflammation and infection of the biliary tract, a potentially life-threatening infection, which is usually associated with biliary tree obstruction and impairment of bile flow from the liver to the duodenum. AC is classified by severity from mild, moderate to severe infection (grade I to III, respectively).

Methods: This study recruited a retrospective cohort from Jan 2015 to July 2018. Overall, 294 patients of age ≥ 18 years with AC were enrolled. The study was conducted according to the World Medical Association Declaration of Helsinki. Demographic and laboratory data were collected for analysis. T-Bilirubin and other laboratory results were collected and analyzed using independent *T-test* and ANOVA for continuous values and multivariate COX regression for survival analysis for identifying independent factors for early mortality. The cut-off threshold of T-bilirubin was determined by calculating the area under the receiver operating characteristic (ROC) curve.

Results: There were 213 male and 81 female patients and mean age ± SD of patients was 49.57 ± 16.1 and 56.12 ± 20.18 respectively. 31.9% patients were found older than 60 years of age and 35% patients were found between 30–45 years of age. T-bilirubin and length of hospital stay (LOS) were found statistically significant ($P < 0.05$) in relation to mortality in AC patients. The area under ROC curve for T-bilirubin level ($P = 0.017$, OR = 1.010) was 0.717 (95% CI, 6.25–168.9) and this is consistent with the Cut-off point for more than or equal to 38.6 µmol/L (2.26 mg/dL).

Conclusions: In this study, T-bilirubin level is found to be significantly related to short-term mortality in AC. Further studies are still needed with larger cohorts to shed more light on these findings.

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KEYWORDS:
Acute cholangitis (AC); Mortality; biomarkers; diagnosis; T-bilirubin

TO CITE THIS ARTICLE:
Al-Yahri O, Al-Zoubi RM, Elhuda AA, Ahmad A, Dhaheri MA, Abdelaziem S, Alwani M, Al-Qudimat AR, Zarour A. 2022. Diagnostic Inflammation Biomarkers for Prediction of 30-Day Mortality Rate in Acute Cholangitis. *International Journal of Surgery: Protocols*, 26(1), pp. 14–21. DOI: *https://doi.org/10.29337/ijsp.170*