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A RESEARCH PROPOSAL ON A SCORING SYSTEM BASED ON CLINICAL, BIOCHEMICAL, AND ULTRASOUND PARAMETERS IN THE PREOPERATIVE DIAGNOSIS OF CHOLEDOCHOLITHIASIS USING INTRA-OPERATIVE CHOLANGIOGRAPHY

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Background : Choledocholithiasis is the presence of gallstones in the common bile duct and mostly diagnosed through a combination of clinical, biochemical and ultrasound features. Presently, ERCP or IOC are common reference standards in the diagnosis of CBD stones. To minimize the need for invasive procedures, countries have employed the use of risk stratification criteria in predicting choledocholithiasis. There are some suggested scoring systems, but they are not yet validated or established that can be widely used clinically. Thus, prediction models based on common clinical, laboratory and sonographic features will have a significant role in the management of patients suspected with CBD stones. This study aims to develop a scoring system based on clinical, biochemical, and ultrasound parameters to predict the presence of CBD stones preoperatively using IOC as the reference standard.

Methods : A cross sectional study design will be used with a 5 year study period which will be conducted in WVMC and includes patients suspected with choledocholithiasis and with an incidental findings of choledocholithiasis on IOC. The sample size for this study was determined using population proportion. Given that the confidence level is 95%, margin of error which is 5%, and the total number of patients who underwent IOC is 308 from January 2018-December 2021. Therefore, the computed sample size in the study is 172 patients. Specificity, sensitivity, PPV and NPV of the clinical, biochemical, and ultrasound findings will be calculated using a chi-square test. Statistical significance will be determined by a p- value of 0.05. Binary logistic regression will be used to predict the relationship between the predictor variables to the proposed scoring system which is binary in nature. Weight of scores assigned to the variable will be based on the coefficients from the regression analysis. Receiver Operating Characteristics and Area Under the Curve will be calculated to obtain optimal cut-off points of sensitivity and specificity based assigned variables that are going to be included in the scoring system model.

Results : No results yet.

Conclusions : At the end of this study we can formulate a scoring system based on the significant parameters which will benefit physicians in diagnosing patients suspected with choledocholithiasis. Subsequently, this will also benefit patients by minimizing unnecessary procedures that are invasive and costly. Moreover, the results of this study may be used by researchers in formulating clinical management guidelines in the diagnosis and management of choledocholithiasis.

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