471 C-Reactive Protein Accurately Predicts Severity of Acute Pancreatitis in Children

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Introduction: Predicting severity of acute pancreatitis enables optimization of care, reducing morbidity and length of stay. Modified adult scoring systems have not yet been able to adequately predict severity in children. This study supports the use of CRP in children as a superior biomarker of acute pancreatitis severity compared with the modified Glasgow Pancreas score.

Method: This was a retrospective study of children presenting with a first episode of acute pancreatitis from 2002 - 2020 in a single tertiary paediatric surgical centre. Serum markers including CRP at 48 hours of admission were analysed. Statistical analysis included Receiver Operating Curve (ROC) analysis for promising biomarkers, and these were compared to the modified Glasgow Pancreas Score. A severe episode was defined by development of local complications and/or organ support. An Area Under Curve (AUC) >0.90 was defined as an excellent predictor of severity.

Results: Data of 59 children were analysed, median age 13 years, 22 (37%) patients had a severe episode. ROC analysis demonstrated CRP as the best predictor of severity, giving an AUC of 0.92. Optimum cut off value for CRP was 107. 5mg/L ($p < 0.0001$), producing 91% sensitivity and 84% specificity. This was significantly superior to the modified Glasgow Pancreas score, which gave an AUC of 0.66 ($p < 0.0424$) producing 36% sensitivity and 100% specificity.

Conclusions: We have shown that a CRP >107.5 within 48 hours of admission can be used to predict severity of acute pancreatitis in children with greater accuracy than current scoring systems.