

The Admitting Hemogram as a Predictor for Severity and in-Hospital Mortality in Acute Pancreatitis

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Abstract : Acute pancreatitis (AP) is an inflammatory condition of the pancreas with local and systemic complications. Severe acute pancreatitis (SAP) has a higher mortality rate. Laboratory parameters like the neutrophil-to-lymphocyte ratio (NLR), red cell distribution width (RDW), and mean platelet volume (MPV) have been associated with SAP but with conflicting results. This study aims to determine the predictive value of these parameters on the severity and in-hospital mortality of AP. This retrospective, cross-sectional study was done in a private hospital in Cebu City, Philippines. One-hundred five patients were classified according to severity based on the modified Marshall scoring. The admitting hemogram, including the NLR, RDW, and MPV, was obtained from the complete blood count (CBC). Cut-off values for severity and in-hospital mortality were derived from the ROC. Association between NLR, RDW, and MPV with SAP and mortality were determined with a p-value of < 0.05 considered significant. The mean age for AP was 47.6 years, with 50.5% being male. Most had an unknown cause (49.5%), followed by a biliary cause (37.1%). Of the 105 patients, 23 patients had SAP, and 4 died. Older age, longer in-hospital duration, congestive heart failure, elevated creatinine, urea nitrogen, and white blood cell count were seen in SAP. The NLR was associated with in-hospital mortality using a cut-off of > 10.6 (OR 1.133, 95% CI, p-value 0.003) with 100% sensitivity, 70.3% specificity, 11.76% PPV and 100% NPV (AUC 0.855). The NLR was not associated with SAP. The RDW and MPV were not associated with SAP and mortality. The admitting NLR is, therefore, an easily accessible parameter that can predict in-hospital mortality in acute pancreatitis. Although the present study did not show an association of NLR with SAP nor RDW and MPV with both SAP and mortality, further studies are suggested to establish their clinical value.

Keywords : acute pancreatitis, mean platelet volume, neutrophil-lymphocyte ratio, red cell distribution width

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