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Full Title of the Abstract: PREDICTING OUTCOME IN COVID-19 WITH USE OF HEMATOLOGICAL AND INFLAMMATORY MARKERS IN A HOSPITAL BASED STUDY

COVID-19 is pandemic respiratory infectious disease. World health organization declared COVID-19 pandemic in Feb 2020.
We aimed to determine the prognostic values and correlation of hematological & inflammatory markers with severity and mortality in COVID-19 in a hospital based study

A cross sectional study covering 182 patients, 112(61.53%) males and 70(38.46%)females, was conducted in two tertiary care hospital of Khyber Pukhtoonkhwa (Qazi Hussain Ahmed Medical Complex Nowshera & Hayatabad Medical Complex Peshawar).

Out of 71 patients, 54(76.1%) were males and 17(23.9%) were females. Thirty five(49.3%) had age>55 years while 31(43.7%) were in age range 36-55 years. The frequency of the different blood groups were; 25(35.2%) B+ blood group followed by 19(26.8%) A+ and 14(19.7%) O+ with an order of BAO. A statistically significant difference ($p<0.05$) exists between the groups (discharged satisfactorily vs Expired) regarding neutrophil to lymphocyte ratio (NLR), Absolute Neutrophilic count (ANC) and platelet count. NLR is a prognostic indicator in COVID-19 to predict mortality/worst outcome with a Area Under Curve (AUC) of 0.68 on ROC. Furthermore the AUC for d-dimers was (0.725, 95% CI 0.599-0.855) followed by CRP (0.565 95%CI 0.422-0.7.8) and ferritin (0.519 95%CI 0.36-0.679). The median values of d-dimers was significantly higher in the deceased as compared to the survivors ($p<0.05$- Mann Whitney U test).The CRP and ferritn levels were not significantly different in study groups. There was a significant positive uphill correlation of the hospital stay with higher values of d-dimers ($p=0.01$, $r_s= 0.287$).

The clinical sensitivity and specificity of NLR, ANC and Platelet count have at least one tie between the positive actual disease state with mortality and the disease actual state group without complications. Regarding inflammatory markers, D-dimer is the main prognostic factor that predicts mortality in COVID-19 followed by CRP and serum ferritin levels. Male gender and patient with age>60 are at risk of worst outcome under the impact of deranged values of inflammatory mediators. Hospital stay itself has no significant relation with outcome.