Evaluation of clinical and laboratory findings in Diabetic patients with COVID-19 admitted to the Ardabil Imam Khomeini Hospital from April to September 2020

Abstract

Background: Given the coronavirus pandemic, the role of underlying diseases in the severity of COVID's disease seems significant. One of the underlying diseases in the condition of Covid is 19 diabetic diseases. Due to the high risk of infection in diabetic patients, we decided to examine the clinical and laboratory findings of diabetic patients with COVID.

Aim: This study aimed to evaluate clinical and laboratory findings in patients with diabetes associated with COVID -19.

Materials and methods: The retrospective cross-sectional study was executed from April to September 2020 in all Diabetic patients with COVID 19 admitted to Ardabil Imam Khomeini Hospital. The inclusion criteria were all patients with diabetes who tested positive for Covid -19 real-time PCR test or those patients who were diagnosed based on CT scan findings based on national guidelines .The checklist includes demographic characteristics, clinical presentation, and laboratory findings completed. information had collected and imported into SPSS version 21 software, results were analyzed using Fisher's exact test with $P < 0.05$.

Results: 644 diabetic patients with Covid 19 with a mean age of 66.29±11.60 years ,299 were male (46.5%) and 345 were female (53.5%) were studied. The results of the current study revealed that 461 patients (71.6%) recovered and 183 (28.4%) died. The most common comorbidities with diabetes patients with covid19 were hypertension (66.1%), cardiovascular disease (32%) and infarct (15.7%), respectively. Analysis of laboratory results based on disease outcome revealed neutrophil count ($p < 0.001$), leukocyte count ($P = 0.00$), hemoglobin ($P = 0.00$), PT ($p < 0.05$), AST ($P = 0.00$) , Troponin ($p < 0.05$), lactate dehydrogenase ($P = 0.00$), ferritin ($P = 0.00$), blood sugar ($p < 0.05$) and urea ($P = 0.00$), ($p < 0.001$) Cr, D dimer ($p < 0.05$) and potassium ($p < 0.05$) in diabetic patients with covid 19 who died were higher and statistically significant than those recovered.

Conclusion: The results showed that most of the patients were the elderly. Also, underlying diseases such as previous vascular disease, kidney disease and cancer history were directly

related to the outcome. On the other hand, leukocyte, neutrophil, ferritin, LDH and AST levels were significantly higher in patients who died.

Keywords: Diabetes, COVID-19, ARDS