

## **Abstract**

### **Background:**

Studies show more exposure to COVID-19 in elderly people and likely they have poorer treatment outcomes, however currently there is limited information on the clinical and laboratory characteristics of COVID-19 in elderly patients so we aimed to examine the clinical and laboratory findings in elderly patients in comparison to patients younger than 60 in Ardabil Imam Khomeini hospital.

### **Aim:**

Determining the comparison of clinical and laboratory findings in elderly and non-elderly patients with covid-19

### **Materials and Methods:**

This study is a retrospective descriptive analytical study that was performed from March to the September 2020 in all patients with Covid 19 admitted to Imam Khomeini Hospital in Ardabil. Inclusion criteria were all inpatients whose Real-time PCR test was positive for Covid 19 disease or those who were diagnosed with Covid 19 based on the findings of the CT scan, based on national guidelines. For all subjects, a questionnaire including demographic characteristics, clinical and laboratory findings was designed. The data of the questionnaire were collected and after entering it in SPSS version 21 software, the analysis of the results was reported using Fisher's exact test with the criterion of  $P < 0.05$ .

### **Results:**

Results: Out of 2196 patients, 1222 were male (55.6%). Of these, 1059 were elderly patients, of which 551 were male (52%), which was statistically significant. ( $P=0.001$ )

Out of 1059 elderly patients, 320 patients died, of which 182 (56.9%) were male, which was statistically significant and the mortality rate was higher in men. ( $P < 0.05$ )

Among 447 patients who died, most of them were elderly (72%). The most common underlying diseases in the elderly are hypertension 660 (77.1%), diabetes 447 (48.4%) and cardiovascular disease 327 (35.1%), which is statistically more than the non-elderly. ( $P < 0.001$ )

The most common symptoms in both age groups are shortness of breath, cough and fever, respectively.

Blood glucose, urea, creatinine and potassium with ( $P < 0.001$ ) and AST with ( $P = 0.001$ ) levels are significantly higher in elderly people with Covid 19 than in the non-elderly. On the other hand, serum albumin levels in the non-elderly are significantly higher than the elderly. ( $P < 0.0001$ ) No significant difference was observed in other experiments.

In the elderly age group, the most common underlying diseases in both sexes were respectively hypertension, diabetes and cardiovascular disease. In the elderly age group, hypertension and history of cancer were significantly related to mortality.

In the laboratory findings of elderly patients, leukocyte with ( $p < 0.001$ ), neutrophil with ( $p < 0.001$ ), monocyte with ( $p < 0.05$ ), eosinophil with ( $p < 0.05$ ) and PT, PTT, INR and D-dimer, AST, LDH, troponin, ferritin, blood sugar, urea, creatinine, and potassium with ( $P < 0.001$ ) are significantly higher in deceased patients, on the other hand, the amount of albumin is significantly higher in recovered patients. ( $P < 0.001$ )

Based on the clinical findings in both age groups, it was revealed that shortness of breath ( $P < 0.001$ ) was statistically higher in deceased patients with covid-19 than in recovered patients.

### **Conclusion:**

The results of study revealed that most of the hospitalized patients were non-elderly, and most of the patients were male. The mortality rate was higher in elderly patients and males. The role of underlying diseases in the mortality rate of both age groups was significant. In the elderly age group, hypertension and a history of cancer are significantly related to mortality. In the non-elderly age group, excluding the history of rheumatological disease and history of thrombosis, other underlying diseases are strongly associated with mortality. Also, the amount of leukocyte, monocyte, Eosinophil, LDH, PT, PTT, INR, troponin, ferritin, blood sugar, urea, creatinine, and potassium were significantly higher in deceased people than in recovered people, on the other hand, the level of albumin in recovered people was significantly higher.

**keywords: COVID-19, Clinical finding, Laboratory Finding**