Republic of Iraq
Ministry of Higher Education
& Scientific Research
Al-Muthanna University
College of Science
Department of Chemistry

The Relationship between Procalcitonin Peptide and other Biochemical Factors with Clinical Severity of COVID-19 Type 2 Diabetic Patients in Al-Muthanna Province

A thesis Submitted to the Council of College of Science /
Al-Muthanna University as Partial Fulfillment of the
Requirements for the Degree of Master of Science in Chemistry

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2022 A.D   1444 A.H

Abstract

COVID-19 is a pandemic discovered at the end of 2019 that affected diabetic patients. This study analyzes the laboratory tests and results for COVID-19 patients with or without type 2 Diabetes Mellitus (T2DM). 132 samples are divided into 66 subjects who have COVID-19 with and without Diabetes Mellitus (DM), 33 controls, and 33 have T2D, all COVD-19 samples were hospitalized. During the period from September 2021 to February 2022 in Al-Muthanna province of Iraq. The age range of all samples is (≥ 40 years old) male or female. Blood samples were withdrawn after nearly 12 hours of overnight fasting to do the analysis of glucose, Alanine aminotransaminase (ALT), Aspartate aminotransaminase (AST), Bilirubin, Renal Function Test (RFT), Procalcitonin, Ferritin, White Blood Cells (WBC), Neutrophiles, Lymphocytes, and platelets. It was found in this study, that the level of glucose was elevated in COVID-19 patients with or without DM, but it was greater in patients with diabetes, the same is shown for ferritin, D-dimer, Procalcitonin, WBC, and neutrophils. Also, the kidneys were affected, the levels of urea and creatinine increased in COVID-19 patients with or without diabetes. The levels of liver enzymes (ALT and AST) were increased, but no change was found in the bilirubin and ALP levels. There was a decrease in the level of lymphocytes and platelets for COVID-19 patients with diabetes. Finally, coronavirus 2 infection might become a risk factor for patients with DM as a result of severe metabolic complications that affected β-cell function.