

Hyperglycemia as the first presentation of COVID-19

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Abstract

This review aims to investigate worsening hyperglycemia and new onset diabetes as the presenting feature of COVID-19. The possible underlying pathophysiological mechanisms will be explored.

Databases like Google Scholar, PubMed and Medline were searched using the key terms: “hyperglycemia”, “diabetes mellitus”, “diabetic ketoacidosis”, “SARS-CoV-2”, “COVID-19” and “pathophysiology”.

Three studies documented a high prevalence of poor glycemic control in people infected with SARS-CoV-2 during hospital admission. The reported prevalence was 55.0 %, 50.8 % and 25.8 % respectively. One study found hyperglycemia was the most prevalent presenting symptom of type 1 diabetic patients admitted for COVID-19. Several studies reported new onset diabetes or secondary hyperglycemia among patients who have no previous history of diabetes. The incidence rate of new onset diabetes in these studies ranged from 3.1 % to 29.0 %. Some of these studies reported a higher hazard ratio of intensive care unit admission, mechanical ventilation and death among patients with new onset diabetes compared to those with known diabetes and those without hyperglycemia. Three main mechanisms might explain hyperglycemia in COVID-19: stress hyperglycemia, drug induced hyperglycemia and pancreatic β -cell dysfunction. Hyperglycemia, new onset diabetes, diabetic ketoacidosis or hyperosmolar hyperglycemic state might be the first and only presentation of COVID-19. A high index of suspicion is essential to exclude COVID-19 in the context of sudden worsening of glycemic control or new onset diabetes.

Biography

Majid Alabbod is a Consultant Endocrinologist who graduated from Macquarie University in Sydney, Australia with the degree of Doctor of Advanced Medicine in Endocrinology (Academic Excellence). Also he is a fellow of the Iraqi Board of Medical Specialization and a fellow of the Arab Board for Health Specialization. He carries a high Diploma in Internal Medicine from Kufa University. He is a member of several international endocrine associations. He is a member of three committees in AACE. Currently, he is the director of The Specialized Endocrine and Diabetes Center, Basra, Iraq and a lecturer and module leader at Alzahraa Medical College.



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