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Abstract

Covid-19 and Diabetes

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Abstract:
As COVID-19 continues to persist in several countries globally with death toll still rising in some countries it is important for everyone to take the necessary precautions to help prevent infection and spread of the virus. COVID-19 is a new virus and we know very little about it. most of the guidelines are based on postulations and observations. People with chronic diseases like Diabetes, heart disease, asthma are more vulnerable to becoming severely ill with COVID-19. The exact mechanism by which the virus influences glucose metabolism is still unclear, based on current observations diabetics are not at an increased risk of covid infection if their glucose is well-controlled, however if the glucose is not well controlled then they are at increased risk. There are several factors that could predispose diabetic patients to infections. Hyperglycemia affects several aspects of cellular immune function like chemotaxis, adherence, phagocytosis, and intracellular killing. Anaerobic conditions in the tissue that are created by vascular compromise and inflammatory response further impair the immune response. Diabetics are also at an increased risk for lung infection. Pathophysiology of lung abnormalities in patients who have DM is believed to involve microangiopathic changes in the basement membrane of pulmonary blood vessels and respiratory epithelium and Nonenzymatic glycosylation of tissue protein. Patients with DM may have more severe disease and a poorer prognosis. Because people with diabetes may also have other comorbidities such as organ failure and cardiovascular disease, it is imperative they follow specific COVID-19 precautions and prevention guidance from the CDC and the World health organization. and their endocrinologist or health care providers. A panel of diabetes specialists from around the world suspect that there is a two-way relationship between diabetes and COVID-19. While experts know that having diabetes can increase a person's risk of severe COVID-19, some evidence shows that people may develop diabetes for the first time as a result of the infection. We know that the SARS-2 virus gain entry to human cells via the receptor, known as ACE2 (angiotensin-converting enzyme). Diabetes specialists point out that many key metabolic tissues in the body, including beta cells in the pancreas, adipose (fat storage) tissue, the small intestine, and kidneys, contain ACE2 receptors. the components of renin angiotensin system to enter into the cells. Whether this predisposes diabetics to Covid-19 infection is a controversial. Experts suggest It would take 1–2 years to confirm whether overall rates of diabetes in populations have increased as a result of the pandemic.

Biography:

Nuzhat Chalisa is a Clinical Endocrinologist practicing in Chicago IL for past 20 years. Dr. Chalisa started her career in United states as a research assistant in Hepatology with Dr. David Vanthiel at Loyola university medical center in Chicago IL. She completed her Internal medicine training at Loyola university Hospital in Chicago. She did fellowship in Endocrinology Diabetes and metabolism at the Rosalind Franklin university of health sciences. Dr. Chalisa's primary interest has been in the area of Diabetes. Her experience crosses between research and clinical practice. Some of her initial research was on age related cognitive decline in diabetics and continuous glucose monitoring. She was then focused on clinical practice for few years. She has been interviewed and have published several articles on Diabetes in local newspapers and Journals and has been a speaker in several International diabetes conferences.

Recent Publications:

1. Chinye S Obidi 1, James P Pugeda, Xiaoduo Fan, Carissa M Dimaculangan, Sant P Singh, Nuzhat Chalisa, Lawrence C Perlmuter. PMID: 18351498 DOI: 10.1080/03610730701876938

2. Diabetes, aging, and cognitive decline. Ryan CM. Neurobiol Aging. 2005 Dec;26 Suppl 1:21-5. doi: 10.1016/j.neurobiolaging.2005.09.006. Epub 2005 Oct 6. PMID: 16213627

3. Differential impact of cardiovascular disease (CVD) risk factor clustering on CVD and renal disease among African-American and white patients with type 2 diabetes mellitus. Summerson JH, Bell RA, Konen JC, Spangler JG. Ethn Dis. 2002 Fall;12(4):530-4. PMID: 12477139

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