

The expanding spectrum of diabetes

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The conventional approach views diabetes in binary terms: as type 1 or type 2 diabetes, with acute or chronic complications, needing either insulin or non-insulin agents. This, however, is an over-simplified impression. Diabetes may be a single eight-letter word, but it packs a wide spectrum of causative factors, clinical presentations, comorbid conditions, and complications.¹

This is evident in the article published by Asma Ahmed et.al.², who analyzed cases of diabetes ketoacidosis (DKA) presented to their center in Karachi.² DKA is usually thought to be a complication of poorly controlled diabetes, but the authors highlight the susceptibility of persons with type 2 diabetes to DKA as well. This phenomenon, initially described as Flatbush diabetes, is common in people of South Asia ancestry.³ The patient may present in ketoacidosis or ketosis and then recover after the initial glucotoxicity and lipotoxicity have been corrected. COVID-19 is known to be a pro-diabetogenic condition, as it is associated with a poorer prognosis in persons with diabetes.⁴ This is clear from the study results, which showed the high frequency of DKA and the relatively poor prognosis of this complication in COVID-19 infected patients.²

This retrospective single-centre study analyzed 120 persons with DKA, of whom 40 had concurrent COVID-19 infections. These 40 persons represented the entire cohort of COVID-19 patients who had DKA and had complete records over a 13-month-long period during the pandemic. The incidence of DKA among all COVID-19 patients was 1.9%.

The other 80 participants were selected from the DKA patients who did not have COVID-19 infection. Of the entire cohort, 84% had type 2 diabetes, as opposed to type 1 diabetes. Most patients were overweight men aged 45-64 years, living with diabetes for >10 years. They presented with high glucose levels which required insulin infusion for resolution.

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Persons with COVID-19 infection required a longer stay in hospital and intensive care unit, and had a greater chance of needing steroids as well as mechanical ventilation. Vasculo-metabolic comorbidity and macrovascular complications, specifically dyslipidaemia and a history of cardiac revascularization in the past, were associated with a higher risk of mortality. A poorer prognosis was also noted in persons with severe acute respiratory distress syndrome (ARDS) and in those who needed mechanical ventilation.²

Diabetes has been known to be an immune-compromised condition, but the relationship between high lipid levels, coronary artery disease, and poor prognosis of DKA has not been highlighted earlier. The Karachi-based study reminds us of the need to focus simultaneously on both acute and chronic complications of diabetes.

This study, in a way, is emblematic of South Asian and global South diabetology practice. Though diabetes is said to be a chronic disease, the South Asian or global Southern physician encounters it in various forms: acute, subacute, and chronic.⁵ The tapestry of tropical diabetes, including its types and subtypes, is much wider than the scope and spectrum of the syndrome encountered in temperate climes.⁶ The results from Karachi add to and strengthen existing data on the interlink between acute and chronic complications of diabetes and their association with chronic complications in type 2 diabetes. This means that a comprehensive 3600 approach, rather than binary acute-or-chronic, type 1 or type 2, attitude is required to manage diabetes.

Documentation of evidence and experience is key to improving the diagnosis and treatment of diabetes. This is what the Journal of Pakistan Medical Association seeks to do through its peer-reviewed articles, editorials, and letters. We commend Asma Ahmed et al for their astute observations, their erudite writing, and insightful understanding. We hope they inspire other researchers and practitioners to contribute to research in diabetes.

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