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Editorial

Editorial for July/August Issue of AACE Clinical Case Reports

Dear Colleagues,

Welcome to another issue of *AACE Clinical Case Reports* (ACCR). This issue is particularly special to readers. AACE has recently published two key diabetes-related clinical guidance publications, including the AACE Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan—2022 Update, and the AACE Consensus Statement: Comprehensive Type 2 Diabetes Management Algorithm – 2023 Update.[1,2] This month's issue of ACCR highlights interesting diabetes cases with diagnostic and management challenges. You will find a summary of the cases in this issue with key points and learnings below. For more details, please access ACCR online journal available at https://www.aaceclinicalcasereports.com/.

Diagnostic conundrums are illustrated by cases of monogenic diabetes that were initially diagnosed as either type 1 or type 2 diabetes. Kumar and colleagues present a case of a young woman whose monogenic diabetes was diagnosed after a pathogenic ~1.8 Mb loss of 17q12 was found on chromosomal microarray of her serous ovarian carcinoma, identifying a disease association not previously reported.[3] The patient was diagnosed with type 2 diabetes prior to identification of their gene mutations. Another case of maturity onset diabetes of the young (MODY) is reported by Grier et al.[4] Type 1 diabetes was diagnosed during adolescence, and the patient was treated with intensive insulin therapy for 17 years before genetic testing showed a pathogenic mutation of the ABCC8 gene. The patient was successfully transitioned to treatment with a sulfonylurea.

Complex diabetes management problems in patients with known monogenic diabetes are discussed in three additional case reports. Komel and Olajide discuss management of a patient with hyperinsulinemia hyperammonia syndrome due to a gene mutation in the glutamate dehydrogenous gene.[5] Cardona and colleagues report the cases of two brothers with Wolfram syndrome and multiple disabilities who were successfully managed with insulin pump therapy.[6] Babirak reports the use of tirzepatide in a patient with heterozygous lipoprotein lipase deficiency and chylomicronemia that resulted in reduction of triglyceride and chylomicron levels.[7]

Two cases of diabetic ketoacidosis are discussed. Stamatiades and colleagues report a case of DKA in a pregnant woman that was precipitated by infection with COVID.[8] The low hemoglobin A1c of 7.4% at the time of presentation is reminiscent of cases of fulminant diabetes following viral infections[9]; however, in this patient, positive antibodies identified type 1 diabetes (T1D) in contrast to cases of antibody-negative fulminant diabetes. In another case, DKA occurred after a patient with T1D started tirzepatide, highlighting the need for caution in the use of GLP1-receptor agonists in patients with T1D.[10]

Unusual side effects to a COVID vaccine, including Raynaud's syndrome, liver dysfunction, and increased insulin requirement, occurred in a patient with T1D reported by Zavgorodnev et al.[11] Two case reports involve potential adverse effects of the SGLT inhibitor, empagliflozin. Echeverria et al show dramatic images of an emphysematous kidney that occurred after starting empagliflozin.[12] Poloju et al reports a possible case of pancreatitis occurring shortly after empagliflozin was initiated.[13]

This diverse group of cases reminds us that making the diagnosis of monogenic diabetes is not always straightforward, but it has major ramifications for patients, including changes in therapy and identification of concomitant conditions including cancer. Management of patients with genetic causes of diabetes can also pose challenges, some of which are reported in this issue. In cases of T1D, we see that both the diagnosis and management can be affected by COVID-19 infection or vaccine. Finally, atypical adverse effects of commonly used therapies are discussed, reminding readers to remain vigilant about all of the drugs that we utilize in diabetes management.

As always, we truly appreciate all contributing authors, reviewers, editors, and staff who help to create opportunities for sharing important case-based information about the diagnosis and management of diverse types of diabetes. I am especially thankful to Dr Janet McGill, a professor of Medicine at Washington University in St. Louis, a leader in diabetes research and care, and a Task Force member of the AACE diabetes guidelines, who contributed to this issue and to the writing of this editorial.

Thank you again for your interest in ACCR. Please send feedback, questions, and comments to use at publications@aace.com.

Warmest regards,

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