



1-Minute Pearls/Pitfalls for the Clinician

# 1-Minute Pearls/Pitfalls for the Clinician

Kwame Dapaah-Afriyie, MD, MBA<sup>1</sup> , Michelle Ting, PharmD<sup>2</sup>

<sup>1</sup> Director of Division of Hospital Medicine, Miriam Hospital; Professor of Medicine, Warren Alpert Medical School of Brown University, <sup>2</sup> Clinical Pharmacy Specialist, Rhode Island Hospital

Keywords: diabetes mellitus, metabolic syndrome, insulin, angioedema, ACE inhibitor, angiotensin receptor blocker, DKA, diabetes

<https://doi.org/10.56305/001c.38027>

Vol. 2, Issue 1, 2023

## QUESTION 1: CAN YOU START AN ARB IN PATIENTS WITH A HISTORY OF ANGIOEDEMA WHILE ON AN ACEI?

*46-year-old with a history of diabetes mellitus who was started on lisinopril (an angiotensin-converting enzyme inhibitor (ACEI)) about 6 months ago on account of increasing proteinuria and onset of hypertension is admitted with facial and oropharyngeal swelling. He is managed for angioedema and after 2 days of hospitalization is ready for discharge. He is concerned about the plan to start him on an angiotensin receptor blocker (ARB) because of online reports. He is uncertain about his compliance with this new medication. Should you start him on an ARB or choose a different class of medication?*

A: The non-dihydropyridine calcium channel blockers have anti-proteinuria effects and can be used in place of ACEIs and ARBs in patients who are intolerant to due to angioedema and/or hyperkalemia. Since ARBs can also cause angioedema, a discussion of risks and benefits must be had with the patient and prescribed with caution. ARBs directly inhibit the angiotensin receptor and do not interfere with the bradykinin pathway; however, it is unclear how ARBs may cause angioedema.<sup>1</sup> Since this patient is uncertain about compliance and anxious about an ARB, he should be started on diltiazem instead.

## QUESTION 2: IS IT SAFE TO START PATIENTS ON AN ORAL ANTIDIABETIC REGIMEN AFTER BEING HOSPITALIZED FOR DKA?

*A 50-year-old woman with a history of type 2 diabetes mellitus, hypertension, and obesity (BMI 38) is admitted with diabetic ketoacidosis (DKA) after 5 days of non-compliance with her oral hypoglycemic regimen due to an episode of presumed viral gastroenteritis. She has been managed with insulin, and now has adequate glycemic control and her serum electrolytes*

*are normal. She wants to go home on an oral regimen because her cousin had an episode of diabetic ketoacidosis about a year ago and is now on metformin and glipizide. What medications should you send her home on?*

A: Patients with ketosis-prone type 2 diabetes tend to have metabolic syndrome, insulin resistance and a family history of diabetes mellitus. They exhibit varying phases of insulin dependence and independence, accounting for episodes of DKA. For management of DKA, insulin is required, and they need to be on insulin upon discharge from the hospital. Assessment of their beta-cell function should be done after 6-8 weeks by checking a fasting C-peptide level. Levels > 1.0 ng/ml indicate adequate beta-cell function and therefore a safe transition to oral regimen. Patients with low levels of fasting C-peptide levels and/or evidence of antibodies seen in type 1 diabetics such as anti-GAD require long-term insulin for management of their diabetes mellitus.<sup>2,3</sup>

.....  
**CONFLICTS OF INTEREST**

The authors declare they have no conflicts of interest.

**CORRESPONDING AUTHOR**

Kwame Dapaah-Afriyie, MD  
Professor of Medicine, Clinical Educator  
Warren Alpert Medical School at Brown University  
Division Director  
Division of Hospital Medicine  
The Miriam Hospital, 164 Summit Avenue, Providence, RI 02906

Submitted: July 04, 2022 EST, Accepted: August 01, 2022 EST



## REFERENCES

1. Sharma P, Nagarajan V. Q: Can an ARB be given to patients who have had angioedema on an ACE inhibitor? *Cleve Clin J Med*. 2013;80(12):755-757. doi:[10.3949/ccjm.80a.13041](https://doi.org/10.3949/ccjm.80a.13041)

2. American Diabetes Association. 11. Microvascular Complications and Foot Care: *Standards of Medical Care in Diabetes—2021*. *Diabetes Care*. 2021;44(Suppl 1):S151-S167. doi:[10.2337/dc21-s011](https://doi.org/10.2337/dc21-s011)

3. Gaba R, Mehta P, Balasubramanyam A. Evaluation and management of ketosis-prone diabetes. *Expert Rev Endocrinol Metab*. 2019;14(1):43-48. doi:[10.1080/17446651.2019.1561270](https://doi.org/10.1080/17446651.2019.1561270)