

It's Getting Hot in Here

Complex Senior Patient Case

CASE

96 year-old female, multiple co-morbidities including: heart failure with preserved ejection fraction (HFpEF) and CKD. During a hospital admission in April 2024, dapagliflozin was added to her existing HFpEF regimen (ramipril and furosemide).

The patient complained of increased urinary frequency after initiation of dapagliflozin and discontinued furosemide on her own. Her pedal edema worsened and furosemide was restarted. Subsequently, during her routine bloodwork, it was found that her eGFR decreased from ~40 mL/min to ~20 mL/min.



So, what happened here?

- Dapagiflozin, like other SGLT2 inhibitor agents, can often cause increased urinary frequency that may or may not be transient
- Re-initiation of furosemide may have contributed to increased fluid loss
- There was a heat surge during the last few weeks, and the patient may not have been advised to ensure adequate fluid intake to make up for the increased fluid loss from her medications

Medications can pose problems in the context of heat-related health risks

1. Some medications impair the body's ability to produce sweat, which is essential for cooling off when it's hot out. For example:
 - Beta-blockers
 - Decongestants
 - Anticholinergic medications
2. Some medications can increase body temperature. For example:
 - Antipsychotic medications
 - Stimulant medications
3. Some medications can cause drowsiness, reduce a patient's ability to concentrate, and slow their reaction time. This can impair their ability to adopt safe behaviours in period of extreme heat, such as drinking water or staying cool. For example:
 - Anxiolytic medications
 - Neuropathic pain agents
 - Opioids
4. Some medications can become toxic to the body and kidneys if patient becomes dehydrated from the heat. For example:
 - NSAIDs
 - Anticoagulants
 - Antihypertensives (ACEI, ARB, diuretics, etc)
 - Certain antihyperglycemic medications (ex: Metformin, glyburide, etc)
 - Lithium