



## Practice sting 2024-15

### Practice sting Diabetic ketoacidosis after continuation of SGLT2 inhibitor

**This Practice Sting is particularly interesting for healthcare professionals in hospitals**

In April 2024, an article appeared in the Pharmaceutisch Weekblad describing three patients who developed diabetic ketoacidosis. In these patients, an SGLT2 inhibitor before bariatric surgery was not stopped or not stopped in a timely manner. Recently, Preventing Medication Incidents (VMI) received a similar report of diabetic ketoacidosis after a surgical procedure while using an SGLT2 inhibitor.

#### Notification

A woman comes to the emergency room in the evening with a hip fracture. Metformin is stopped from home medication and dapagliflozin is continued. The next morning the woman undergoes surgery. Three days after the operation, she experiences nausea, vomiting and upper abdominal pain and has a high respiratory rate. Further investigation shows that the woman has diabetic ketoacidosis, with normal blood glucose levels.

#### Analysis

SGLT2 inhibitors are known to cause ketoacidosis, while blood glucose levels are normal. The underlying mechanism has not yet been fully elucidated. It is probably due to a decrease in insulin levels, an increase in glucagon levels and therefore an increased risk of the formation of ketones associated with increased acidity in the blood. Situations such as major surgery or serious acute illness are associated with an increased glucose requirement and often with insufficient nutritional intake to correct this. Such situations increase the risk of developing diabetic ketoacidosis in patients taking an SGLT2 inhibitor. It is important that sufficient attention is paid to the use and, if necessary, discontinuation of SGLT2 inhibitors upon admission to hospital.

#### Recommendations

##### For hospital pharmacists

- Discuss in the committee that deals with medication safety in the hospital that:
  - SGLT2 inhibitors should be stopped in the event of major surgery or severe acute illness. Also monitor the ketone value (preferably) in the blood in these patients after stopping.
  - SGLT2 inhibitors may only be used if there is no major surgical intervention or serious acute illness and a physician has assessed that this is safe.

##### For surgeons and anaesthetists

- During preoperative screening, instruct patients to stop taking an SGLT2 inhibitor before major surgical procedures.
- Make mutual agreements about who will give these instructions to patients.