THE KETONE CRISIS

Drug use evaluation of SGLT2 inhibitors and ketoacidosis

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Background

Ketoacidosis is a serious adverse event caused by SGLT2 inhibitors

Characterised by blood pH < 7.3 and positive blood ketones

Most common risk factors: fasting, insufficient break before surgery and infection

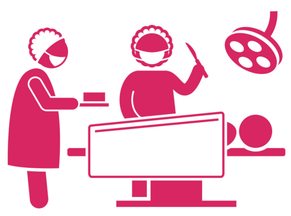
The incidence of this adverse event is unclear

Aim

To estimate the incidence of ketoacidosis events associated with SGLT2I use and identify the clinical characteristics associated with this event at a large tertiary hospital

Results

Of the 1006 patients taking SGLT2I, 14 SGLT2I-related ketoacidosis events were identified (1.4%) between April 2017 and January 2019



Cohorts

SURGICAL PATIENTS WITH SGLT2I-RELATED KETOACIDOSIS

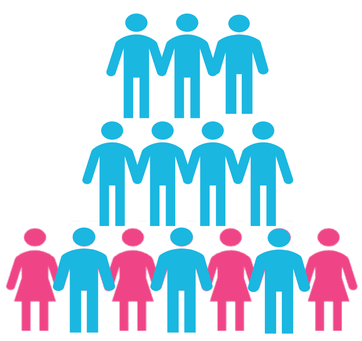
6/14 patients were diagnosed with ketoacidosis post operatively

SGLT2I withheld 48 hours before (n=2) and 24 hours before (n=3) surgery, or commenced shortly after surgery (n=1)

NON-SURGICAL PATIENTS WITH SGLT2I-RELATED KETOACIDOSIS

8/14 patients diagnosed with ketoacidosis were not surgical patients

Of these 8 patients, 4 were acutely unwell prior to development of ketoacidosis including urological infection (n=2) and cardiac events (n=2).



Characteristics

Predominately males (71%)

Over the age of seventy (43%)

Medications included metformin (93%) and insulin (50%)

Average HbA1c of 86.3mmol/mol

Implications

SGLT2 inhibitor-related ketoacidosis is not an uncommon adverse event

Many cases of ketoacidosis involved patients taking SGLT2I with classic risk factors for ketoacidosis

As such, more can and should be done to prevent ketoacidosis with SGLT2I at the Princess Alexandra Hospital

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