Glucose regulation in the ICU using a CIS.

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Introduction

Until the late 1990's stress hyperglycaemia was considered a physiological and beneficial defense mechanism of the human body.[1] The landmark study by Greet van den Berghe changed all this [2]. However, translation of these recommendations into daily clinical practice in our unit by conventional means proved to be difficult. In response to this, a guideline to strictly regulate the glucose levels of our patients was developed. In order to test if compliance to the guideline could be improved, the guideline was subsequently incorporated in the Clinical Information System (CIS, MetaVision®, iMD-Soft, Tel Aviv, Israel) [3].

Methods

The study consisted of 4 periods in a 'before - off – on –off' design: before guideline implemenation, guideline available only on paper, guideline incorporated in CIS, guideline available only on paper. Primary outcome parameter was the time the patient spent in target range (4.0 – 7.0 mmol/L).

Results

The length of time that patients' glucose levels were within target range (4-7 mmol/L)) before implementation of the guideline was 22.04%. With paper implementation of the guideline this increased to 44.25%. A further improvement was seen for the CIS period to 53.49%. The post intervention group the time spent in target range dropped significantly: 42.29%.

Conclusions

The increasing evidence that stress hyperglycaemia is harmful for critically ill patients has created an increased interest in glucose management in Intensive Care medicine. Guidelines are usefull in optimising the glucoseregulation, a further improvement can be achieved by incorporating the guideline in a CIS.

References

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