The Use of Insulin Infusions for Severe Hypertriglyceridemia in an Acute Care Setting

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INTRODUCTION

Hypertriglyceridemia (HTG) affects approximately 16.2% of the adult population.¹

Severe HTG is characterized by elevated plasma triglyceride (TG) levels >500mg/dL and is associated with an increased risk of pancreatitis, a potentially fatal complication.²

HTG can result from a variety of different causes including genetic mutations, lifestyle factors and certain medications.

The American College of Cardiology guidelines suggest statins, a low-fat diet, omega-3 fatty acids, and fibrates for the management of severe HTG.²

Currently, there are no guidelines on the treatment of acute pancreatitis secondary to severe HTG in the acute care setting, but limited literature suggests the use of insulin infusions for these patients.

OBJECTIVES

The purpose of this study is to review patients treated with an insulin infusion for the treatment of severe HTG in an acute care setting.

Primary Outcome:

- Efficacy of insulin infusions for the treatment of severe HTG

Secondary Outcome:

- Time required to decrease TG <500mg/dL
- Adverse effects (hypoglycemia, hypokalemia)

METHODS

Retrospective, descriptive study that evaluated adult patients who received insulin infusions for the treatment of severe HTG within Hartford Healthcare between September 2018 – August 2020

Patients were identified through medication reports and data was collected from electronic health records

Descriptive analysis of data was performed

RESULTS

- 43 patient encounters were included
- 4 patients had multiple admissions

The average duration of the insulin infusion was 70.5 hours with a range of 7-480 hours.

In 16 patients (37%), insulin infusions were started using Glucommander® orders and titration.

DISCUSSION AND CONCLUSIONS

- A reduction in TG levels was seen in patients treated with intravenous insulin for severe hypertriglyceridemia.
- The reduction of TG levels in the first 24 hours highlights the effective response patients had to insulin therapy despite the severely high initial TG average amongst the patients.
- Patients experienced adverse effects such as hypoglycemia and hypokalemia during use of the insulin infusion.
- Pharmacist intervention was required for patients who were initiated on Glucommander® for the insulin infusion.

Limitations:

- Small sample size
- Insulin infusions and supportive therapy were initiated based on provider preference

Future Directions:

- Implement an order set to facilitate use of insulin infusion therapy for HTG
- Collect follow-up data after order set implementation

DISCLOSURE

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

REFERENCES