INTENSIVE INSULIN THERAPY IN ACUTE CORONARY SYNDROMES

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Abstract

Background

Elevated admission plasma glucose is associated with increased mortality in patients who are admitted with an acute coronary syndrome. This may be mediated by increased inflammation, apoptosis and coagulation, and by a disturbed endothelial function that can be found in hyperglycemic patients. Insulin has several characteristics that may potentially counteract these mechanisms.

METHODS:

A fifty selected critically ill adult patients admitted with acute coronary syndrome within 6 hours of presentation with admission hyperglycemia "RBS > 140 mg/dl" with or without previously known diabetes mellitus were enrolled in this study and the effect of intensive insulin therapy on decreasing infarct size, the incidence of complications as re-infarction, heart failure, arrhythmias, hemodynamic instability & death was monitored during ICU admission and 30 days follow up.

Results

Of 50 patients who were enrolled in the study 25 patients received insulin infusion , while the other 25 received insulin via S.C route if R.B.S exceeded 180 mg/dl. Each group composed of 25 cases of which 8 cases were diagnosed as having: Non ST-segment elevation acute coronary syndrome "Unstable angina + Non STEMI" "32%", 10 cases were diagnosed as having inf. STEMI." 40%", 7 cases were diagnosed as having anterior STEMI "28%". Mean age was 55.12 ± 8.03 for Group A and 59.68 ± 11 for Group B. The aim of tight glycemic control in the intensive insulin therapy arm group A was successfully achieved. The range of glycemic control during the 1st 24hs as well as during the rest of ICU stay was significantly lower in group A.

Heart failure at 7 and 30 days was 4% and 12%, respectively, for those receiving insulin infusion and 20% and 24%, respectively, for those who did not. Hemodynamic instability was 8% in group A vs. 28% in group B during the ICU stay. Mortality at 7 and 30 days was 0% and 0%, respectively, for those receiving insulin infusion and 4% and 12%, respectively, for those who did not.

Conclusion

Tight glycemic control in patients with acute coronary syndrome presenting with hyperglycemia at admission whether known or not known to be diabetic is