
Intensive Insulin Therapy May Be Harmful To The Critically Ill, Study Suggests

This therapy is used widely in hospitals around the world, yet only one randomised, controlled trial showing unequivocal benefit has been published -- and this trial focused mainly on patients who had undergone cardiac surgery. So, a team from Harborview Medical Center and the University of Washington, Seattle, set out to explore the relationship between intensive insulin therapy and hospital mortality in a mixed population of critically ill patients.

The researchers examined the outcomes of all (10,456) patients admitted to the seven intensive care units (ICUs) of Harborview Medical Center, the only Level 1 trauma center in a 5 state area of the northwest USA, before and after the introduction of intensive insulin protocols.

The study period (March 2001 to February 2005) was split into three consecutive sections: Period I (no specific glycemic control protocol), Period II (target glucose 80--130mg/dL) and Period III (target glucose 80--110mg/dL). The study population included a mix of trauma, surgical, neurosurgical and medical ICU patients.

They found that a policy of intensive insulin therapy was not associated with a decrease in hospital mortality. While the proportion of patients receiving insulin infusions increased from 9% in Period I to 42% in Period III, patients in Period III tended towards higher hospital mortality than those in Period I. Hospital mortality was increased in patients with an ICU stay of three days or less.

The authors suggest that further study is necessary before intensive insulin therapy is implemented widely in critically ill patients. They write: "We observed that intensive insulin therapy in a mixed cohort of critically ill patients was not associated with a reduction in hospital mortality, and was associated with increased ICU and hospital mortality in some subgroups. "These results, combined with data from the most recently concluded randomised trials, suggest that broad implementation of intensive insulin therapy may be premature, and that additional randomised trials in diverse groups of critically ill patients are necessary."

Journal reference: Intensive Insulin Therapy and Mortality in Critically Ill Patients. Miriam M Treggiari, Veena Karir, N D Yanez, Noel S Weiss, Stephen Daniel and Steven Deem. Critical Care (in press)

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