
海外招請講演

[IL(E)8]海外招請講演8

座長:江木 盛時(神戸大学医学部附属病院麻酔科)

Fri. Mar 1, 2019 2:55 PM - 3:45 PM 第5会場 (国立京都国際会館1F Room D)

[IL(E)8]Acute glycaemic control in patients with diabetes

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【同時通訳付き】

Adam is a clinician/researcher with interests in critical care glucose metabolism, nutrition and gastrointestinal function, clinical trials and outcomes from critical illness. He currently serves as Senior Staff Specialist, Head of Intensive Care Unit Research, and Deputy Director Intensive Care Unit at The Royal Melbourne Hospital in Melbourne, Australia. Adam is also employed part-time role as Principal Research Fellow, Intensive Care with the University of Melbourne. He holds a Career Development Fellowship with the National Health and Medical Research Council (NHMRC).

Prevalence of type 2 diabetes mellitus in the critically ill

Type 2 diabetes mellitus (T2DM) is a frequent (15-25%) pre-existing medical condition in critically ill patients.

Hyperglycaemia in critically ill patients without diabetes

Observational data indicate that markedly elevated blood glucose concentrations are associated with adverse outcomes in critically ill patients without T2DM. The landmark multinational NICE-SUGAR trial allocated critically ill patients to receive ‘intensive glucose control’ (4.5-6.0 mmol/l) or ‘conventional glucose control’ (<10.0 mmol/l). In this cohort, conventional glucose control reduced 90-day all-cause mortality, probably via a reduction in hypoglycaemia.

Hyperglycaemia in critically ill patients with T2DM

Observational studies, including seminal work from Doctor Moritoki Egi, have consistently reported that the association between death and hyperglycaemia is markedly affected by adjustment for pre-existing T2DM, such that maintaining blood glucose >10.0 mmol/l appears to be associated with reduced mortality. Within the limitations of these observational studies, and their inherent risk of residual confounding variables, these data support the hypothesis that glucose concentrations that are regarded as safe and desirable in those without diabetes might, instead, be undesirable and harmful in patients with T2DM.

A substantial limitation of previous trials is that study participants with previously normal glucose tolerance and those with T2DM were considered together, with the latter group comprising only a small proportion of the sample population. This is important as the risk of treatment-induced hypoglycaemia is greatest in those with pre-existing T2DM and it also appears to be associated with greater harm.

Exploratory study of ‘liberal’ glucose control

Using a sequential period design three studies have been recently published that have compared ‘standard’ care and ‘liberal’ glucose targets. These studies, which all have substantial methodological limitations, suggest that hypoglycaemia and glycaemic variability, the latter is also associated with increased mortality, are reduced with this approach.

Summary

While these are promising data to support the hypothesis we, on behalf of the Australian and New Zealand Intensive Care Society Clinical Trials Group (ANZICS-CTG), are conducting a multicenter randomized clinical trial to compare the outcomes of targeting ‘liberal’ blood glucose concentrations to ‘standard care’ glucose control (< 10 mmol/l) in critically ill patients with T2DM.

My presentation will focus on the concept of acute glycaemic control in patients with T2DM and the rationale for a more liberal approach, as well as emphasis on waiting for well conducted and adequately powered clinical trials before changing clinical practice.