Estimation of plasma insulin and endogenous insulin secretion in critically ill patients using intensive control insulin-nutrition glucose model

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Abstract

The objective of this study is to estimate total plasma insulin and endogenous insulin secretion by using intensive control insulin-nutrition glucose (ICING) model and to critically ill patients data from Hospital Tengku Ampuan Afzan, Kuala Lumpur. An integral-based method was applied to solve mathematical equations defined in ICING model to find critical parameters of insulin secretion. Results of total endogenous insulin secretion and total plasma insulin level were presented in median and 95% confidence interval. It is reported that the median plasma insulin is 1.26±0.47 μU/ml while the median total plasma insulin is 10.9±4.9 μU/ml and 5% C. and the total median endogenous insulin secretion is 12.9±4.9 μU/ml from the total median plasma insulin. The results elucidated the effectiveness of current practice on intensive insulin infusion therapy (IIT) and also suggest further studies on investigating the presence of mechanism which is strongly believed to contribute to the total plasma insulin level and help to simulate endogenous insulin secretion. © 2017 American Scientific Publishers All rights reserved.

Author keywords

ICING model, Glucose model, Endogenous, Insulin, Critical illness

References (15)

