2018 IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES 2018 - Proceedings
24 January 2019, Article number 08626722, Pages 265-269
2018 IEEE EMBS Conference on Biomedical Engineering and Sciences, IECBES 2018; Borneo Convention Centre KuchingDemak-Isthmus Bridge, Jalan Keruing, SejingkatKuching; Malaysia; 3 December 2018 through 6 December 2018; Category numberCFP1826K-ART; Code 144644

Insulin sensitivity and blood glucose level of sepsis patients in the intensive care unit (Conference Paper)

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Abstract

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Sepsis and hyperglycemia are highly associated with increases in mortality rates, particularly in the critically ill patients. Sepsis diagnosis has been proven challenging due to delay in getting the blood culture results. Thus, often clinical experiences overrule the protocol to prevent the worsening outcome of the patients. In some cases, the erroneous clinical judgement cause antibiotic resistance and even adverse clinical outcomes. This paper investigates the correlation between two parameters; insulin sensitivity and blood glucose level among sepsis patients. The blood glucose level is measured at the bedside during the patient 's stay, whereas insulin sensitivity is obtained using the validated glucose - insulin model. Thus, the insulin sensitivity is a specific parameter of the patient, unregimented of the protocol given to the patient. The same parameters, blood glucose and insulin sensitivity, are also compared to the non- sepsis patients to establish a relationship that can be used for sepsis diagnosis. Given the availability of these two parameters that can be captured rapidly and instantly, a significant relationship can, therefore, help clinicians to identify sepsis at an early stage without second-guessing. © 2018 IEEE.

SciVal Topic Prominence

Topic: Insulin | Insulin Resistance | intravenous glucose

Prominence percentile: 79.774

Author keywords

Glycemic control | ICU | Insulin sensitivity | Sepsis

Indexed keywords

Engineering controlled terms: Biomedical engineering | Blood | Diagnosis | Glucose | Insulin

Engineering uncontrolled terms: Antibiotic resistance | Blood glucose level | Clinical experience | Clinical outcome | Critically-ill patients | Glycemic control | Insulin sensitivity | Sepsis

Engineering main heading: Intensive care units

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Funding details

Funding sponsor	Funding number	Acronym
Ministry of Higher Education, Malaysia		MOHE
Ministry of Higher Education, Malaysia	8014034	MOHE

Funding text #1
This research is supported by the grants from the Ministry of Higher Education of Malaysia and Universiti Sains Malaysia.

Funding text #2
ACKNOWLEDGMENT The authors would like to thank the clinical staffs of the Universiti Malaya Medical Centre for providing the clinical data. Profound gratitude to the Universiti Sains Malaysia and Ministry of Higher Education for the financial support. This research is partly supported by the Research University Individual Grant from the Universiti Sains Malaysia (Project No: 8014034).

ISBN: 978-153862471-5
Source Type: Conference Proceeding
Original language: English
DOI: 10.1109/IECBES.2018.08626722
Document Type: Conference Paper
Sponsors: Physiological Measurement,Sarawak Convention Bureau
Publisher: Institute of Electrical and Electronics Engineers Inc.

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