探討以糖化血色素評估使用全靜脈營養患者血糖耐性之適用性

Utility of HbA1c levels for impaired glucose tolerance finding in hospitalized patients on total parental nutritional support.

葉錦瑩

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摘要

探討以糖化血色素（hemoglobin A1c，簡稱 HbA1c）評估全靜脈營養（total parental nutrition, 簡稱 TPN）患者之血糖耐受適用性，找出使用 TPN 易發生高血糖之危險族群，提早給予適宜血糖管理。蒐集振興復健醫學中心 92 年 8 月至 12 月之住院病患且無糖尿病病史者，使用 TPN 營養支持者共 48 人，登錄年齡、性別、身高、體重、疾病史等基本資料後，收集開始接受 TPN 輸液七天內之基本檢驗數據，並在第一天測量 HbA1c 值，且監測及記錄其血糖狀況直至停止接受 TPN。利用 ROC 分析法找出適宜敏感度及特異度之 HbA1c 切點。本研究發現，針對未曾有過糖尿病診斷或病史者利用 ROC 分析法找出之 HbA1c 切點落於 5.6%時，有最適宜的敏感性(70%)及特異性(84.2%)。由本研究結果推論，當病患接受 TPN 第一天測得 HbA1c 值大於 5.6%時，可能因存有耐糖障礙的情況而增加接受 TPN 期間發生高血糖的機會，建議對於此族群病患給予積極的血糖監控，以期對疾病復原有所助益。不過，醫院內接受 TPN 支持者多屬於病情況複雜之重症病患，可能含有許多影響血糖之多重因素，實際應用與可行性仍有待未來深入探討。

Abstract

We evaluated the utility of hemoglobin A1c (HbA1c) levels for impaired glucose tolerance findings in hospitalized patients receiving total parental nutritional (TPN) support. From August 1(superscript st) to December 31(subscript st) 2003, there were 48 patients without diabetes history receiving TPN support at Cheng Hsin rehabilitation medical center hospital. We measured HbA1c levels on the first day and recorded other laboratory data (i.e., albumin and hemoglobin) for the next 7 days when patients were receiving TPN, and also

measured blood sugar levels until the patient stopped the TPN therapy. A receiver operator characteristic (ROC) analysis was performed to assess the sensitivity and specificity of various HbA1c levels. The results revealed that HbA1c cut off of 5.6% gave the optimal sensitivity (70%) and specificity (84.2%) for patients without a diabetes history. Our data suggest that if the patient's HbA1c is greater than 5.6% on the first day of receiving TPN, that this may be a high-risk factor for hyperglycemia occurrence due to impaired glucose tolerance during the TPN support period. However, patients receiving TPN are usually in a critical condition, and there are often other contributing factors affecting blood sugar levels. Further prospective studies to examine the actual applicability and feasibility are warranted