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Correction to: Substrate utilization and energy expenditure pattern in sepsis by indirect calorimetry

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Correction to: Critical Care (2020) 24:535

https://doi.org/10.1186/s13054-020-03245

Following publication of the original article [1], the authors reported a misalignment error of the x-axis in Fig. 1b; in addition, there were two typos and two formatting errors. The revised Fig. 1b and revised text is indicated hereafter. The changes have been highlighted in **bold typeface**.

The sentence currently reads:

The metabolic profiles differed between survivors and non-survivors (Fig. 1a). Both groups had negative energy balance during fasting state. Survivors transitioned to a *hyper*metabolic state following feeding initiation, achieving positive energy balance. Non-survivors remained *hypometabolic* despite feeding.

The sentence should read:

The metabolic profiles differed between survivors and non-survivors (Fig. 1a). Both groups had negative energy balance during fasting state. Survivors transitioned to a *hyper*metabolic state following feeding initiation,

The original article can be found online at https://doi.org/10.1186/s1305 4-020-03245-2.

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achieving positive energy balance. Non-survivors remained *hypometabolic* despite feeding.

The sentence currently reads:

Our study advances the understanding of energy balance and substrate utilization in sepsis. During fasting, low insulin with elevated counter-regulatory hormones promotes lipolysis; muscle glycogen is depleted at an exponential rate greater than athletes running marathons [4]. The predominant energy substrate switches from carbohydrates to lipids—the hallmark of fasting physiology. This explains the low RQ in early sepsis, when patients are preferentially utilizing lipids (RQ≤0.8) during permissive underfeeding [5]. The hypermetabolic state and inability for non-survivors to transit to carbohydrate utilization suggest ongoing debilitating mitochondrial dysfunction, consistent with associated multi-organ failure [6]. However, whether adjusting the feeding types and regimen to alter these patterns and improve outcomes remain unknown.

The sentence should read:

Our study advances the understanding of energy balance and substrate utilization in sepsis. During fasting, low insulin with elevated counter-regulatory hormones promotes lipolysis; muscle glycogen is depleted at an exponential rate greater than athletes running marathons [4]. The predominant energy substrate switches from carbohydrates to lipids—the hallmark of fasting physiology. This explains the low RQ in early sepsis, when patients



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Li and Mukhopadhyay Crit Care (2020) 24:660 Page 2 of 2

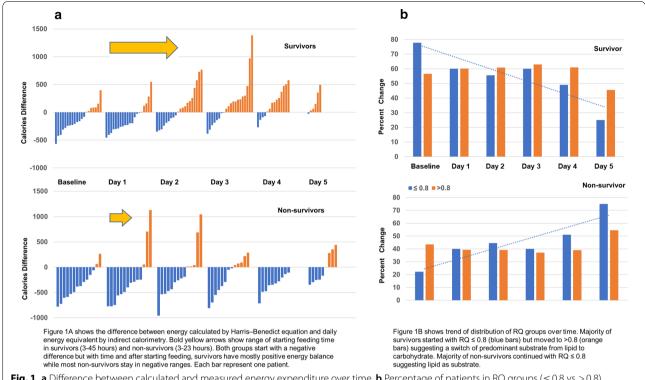


Fig. 1 a Difference between calculated and measured energy expenditure over time. **b** Percentage of patients in RQ groups (\leq 0.8 vs.>0.8) between survivors and non-survivors

are preferentially utilizing lipids (RQ \leq 0.8) during **relative** underfeeding [5]. The *hypo*metabolic state and inability for non-survivors to transit to carbohydrate utilization suggest on-going debilitating mitochondrial dysfunction, consistent with associated multi-organ failure [6]. However, whether adjusting the feeding types and regimen to alter these patterns to improve outcomes remain unknown.

This has now been included in this correction article.

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Published online: 24 November 2020

Reference

- Li A, Mukhopadhyay A. Substrate utilization and energy expenditure pattern in sepsis by indirect calorimetry. Crit Care. 2020;24:535. https://doi. org/10.1186/s13054-020-03245-2.
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