

Does Tight Glycemic Control positively impact on patient mortality?

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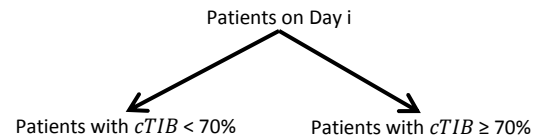
Introduction

High and variable blood glucose (BG) levels have been associated with increased mortality. Tight Glycemic Control (TGC) aims at reducing BG levels to improve patient outcome and mortality. It is a retrospective analysis of the Glucontrol study to evaluate the impact of TGC on mortality.

Method

- **Patients:** N = 1488, from two cohorts Glucontrol (N = 704) and SPRINT (N = 784).
- **Data:** BG measurements.
- **Assessment of TGC glycemic outcome:** cumulative time in the 4-7 mmol/L band (*cTIB*) defined daily for each patient.
- **Odds of living:**

$$OL = \frac{\# \text{ lived}}{\# \text{ died}}$$



Results

- **Patient with *cTIB* ≥ 70%** : increased OLs over ICU stay
- **Patient with *cTIB* < 70%** : decreased OLs over ICU stay

Day 1 - Similar results

- *cTIB* < 70%: OL = 5.06
- *cTIB* ≥ 70%: OL = 5.54

Day 3 - Separation

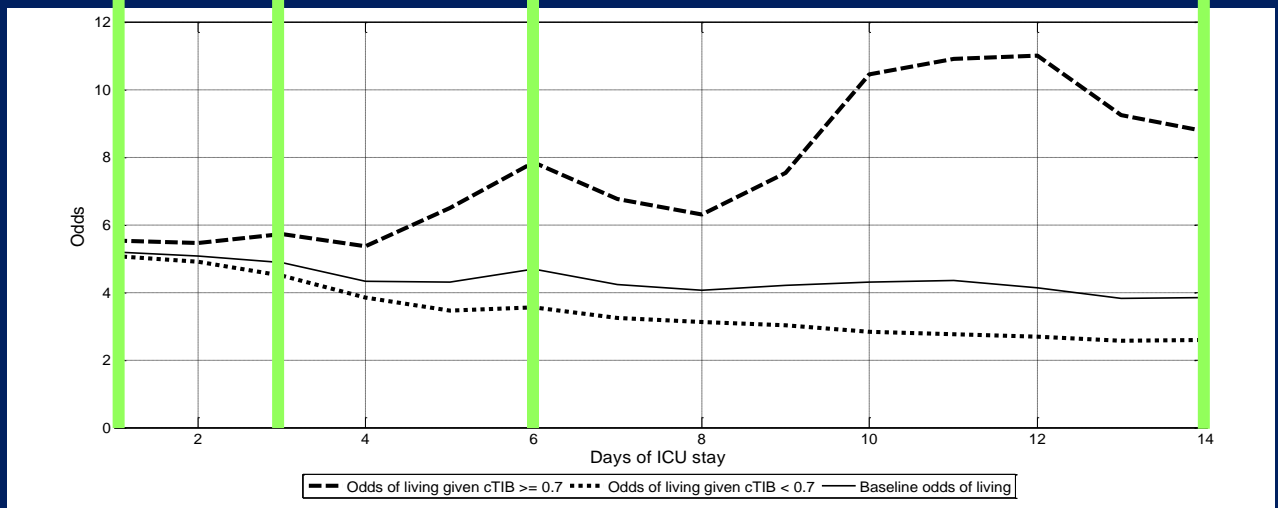
- *cTIB* < 70%: OL = 4.50
- *cTIB* ≥ 70%: OL = 5.73

Day 6

- *cTIB* < 70%: OL = 3.56
- *cTIB* ≥ 70%: OL = 7.84

Day 14 - Last day

- *cTIB* < 70%: OL = 2.58
- *cTIB* ≥ 70%: OL = 8.75



- Survival rate is higher when *cTIB* ≥ 70% and thus when BG levels are tightly controlled around normoglycemia.
- The longer the patient's ICU stay, the lower the survival rate when *cTIB* < 70%.

Conclusion

Results show that irrespective of TGC protocols, **high *cTIB*** and thus **normoglycemia** are associated with **higher odds of living**. This suggests that TGC positively influences the patient outcome.

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