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# Assessment of Postprandial Glucose Excursions throughout the day in newly diagnosed Type 2 Diabetes

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## Introduction [1]

- Evidence points towards that postprandial glucose should be added to HbA1c and fasting glucose measurements in type 2 patients.

**Aim:** an on-going debate is questioning how to assess postprandial glucose. This observational study looks further into this question in newly diagnosed type 2 Diabetes patients

## Conclusions

- Breakfast is associated with larger and more consistent postprandial glucose excursions than seen after lunch and dinner.
- Self-monitoring of postprandial blood glucose should be evaluated with care.
- Monitoring of postprandial glucose patterns should be obtained approximately 90 minutes following breakfast for reducing day to day variations.

## Methods

- 3 days continuous glucose monitoring (CGM)
- 462 meals were analyzed
- Calculation of inter- and intra variability between breakfast, lunch and dinner.

## Patients

- 86 non-insulin treated type 2 Diabetes patients
- 55 % females
- Age 61 (10)
- BMI 30 (4.5)
- BP 126 (12) / 79 (8)
- HR 66 (10)

## Results:

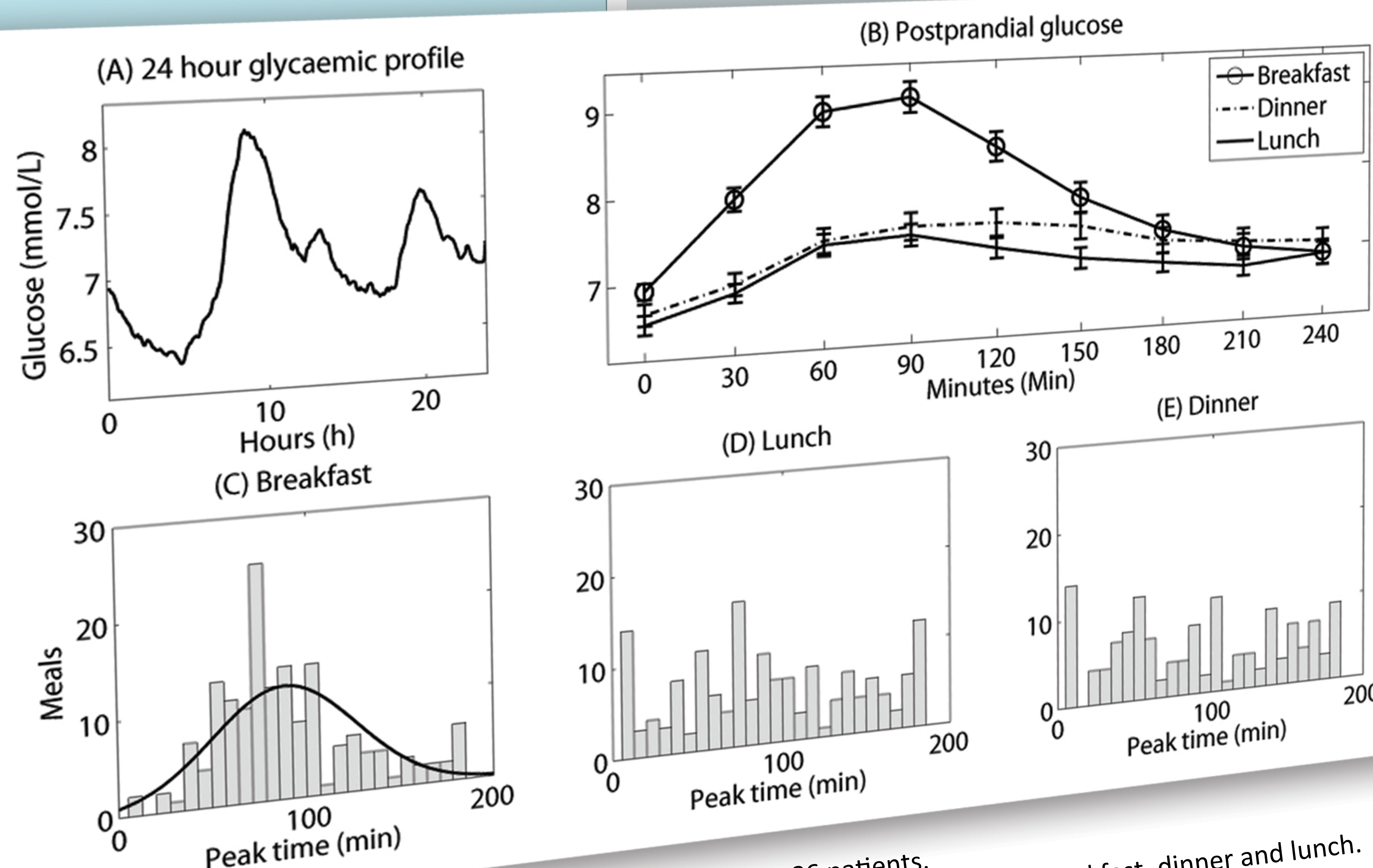
- Peak time: median 90 min
- Peakglucose: breakfast 10.2 (2.5) mmol/l  
lunch 8.4 (1.6) mmol/l  
dinner 8.8 (2.1) mmol/l  
(ANOVA,  $p < 0.001$ )

## Results: Intraclass correlation

- Peak time: breakfast 0.60 ( $p < 0.05$ )  
lunch (Not significant)  
dinner (Not significant)
- Peakglucose: breakfast 0.86 ( $p < 0.05$ )  
lunch 0.44 ( $p < 0.05$ )  
dinner 0.74 ( $p < 0.05$ )

## References

[1] Monnier et al. Integrating glycaemic variability in the glycaemic disorders of type 2 diabetes: a move towards a unified glucose tetrad concept. Diabetes/metabolism, 2009



(A) 24 hour mean glycemic profiles from 86 patients.  
(B) Mean postprandial value with standard error of mean, for breakfast, dinner and lunch.  
(C-E) from left to right: breakfast, lunch and dinner histograms for postprandial peak time.