



**Karolinska
Institutet**

Date: 2021-02-25

Summary attachment - study ended before 21 July 2013

EudraCT number: 2006-007031-27

Full title of the study: Effects of insulin treatment on postprandial platelet activation in patients with NIDDM: a placebo-controlled dose-response study with insulin aspart (Novorapid®)

Sponsor: Karolinska Institutet

Contact person: paul.hjemdahl@ki.se

Study ended: 2011-07-09

Link to published article: <https://diabetes.diabetesjournals.org/content/61/9/2380.long>

Abstract from published article:

Postprandial hyperglycemia is associated with platelet activation. We thus investigated if meal-induced platelet activation could be attenuated by meal insulin. A randomized, double-blind, cross-over study was performed to compare postprandial platelet activation after premeal injections of placebo or insulin aspart (0.1 and 0.2 units/kg) in 18 patients with type 2 diabetes mellitus (T2DM). Platelet activation was assessed by flow cytometry, without and with stimulation by the thromboxane analog U46619 or ADP. Measurements were before and after premeal blood glucose standardization (to 6–7 mmol/L by insulin infusion, if needed) and at 90 min after the meal. Premeal insulin reduced postprandial hyperglycemia by 2–3 mmol/L compared with placebo. Postmeal insulin levels were doubled with placebo and further elevated with insulin injections. The standardized meal enhanced U46619-induced platelet P-selectin expression by 23% after placebo; this response was more than doubled after premeal insulin. U46619-induced fibrinogen binding was unchanged after meal intake with placebo but was markedly enhanced (by ~50–60%) after premeal insulin. Postprandial platelet activation correlated positively to postprandial insulin levels and inversely to glucose levels. Premeal insulin infusion was also associated with platelet activation. Our results suggest that postprandial insulin rather than glucose accounts for postprandial platelet activation in T2DM patients.

Registered in ClinicalTrials.gov: NCT00771693

Sofie Possmark
Coordinator
Compliance & Data Office
Research Support Office
Karolinska Institutet
Sweden