Supplementary material

Siniarski A, Gołebiowska-Wiatrak R, Malinowski KP, Gajos G. Blood clot properties, thrombin generation and platelet activation in patients with dysglycemia and established atherosclerotic cardiovascular disease: The CASCARA study. Pol Heart J. 2024.

SUPPLEMENTARY RESULTS

Non-linear associations with glucose or HbA1c concentrations

Notably, non-linear associations were prevalent across thrombin generation and fibrin clot properties variables at varying glucose concentrations (*Figure S1*). In the CAD + T2D group, Ks exhibited a decreasing trend with rising of glucose concentrations, while the CAD + PD group showed prolonged CLT at higher glucose concentrations. ETP values demonstrated a positive correlation with glucose concentration, especially in the CAD + PD and CAD + T2D groups. The CAD group displayed a parabolic pattern, with the highest ETP values at both the lowest and highest glucose concentrations. HbA1c analysis (available for CAD + PD and CAD + T2D cohorts) revealed only modest changes in thrombin generation and fibrin clot properties parameters, with elevations in ETP and Time to Peak among individuals with normal HbA1c values (*Figure S2*).

In the CAD and CAD + PD groups, PF-4 exhibited a non-linear association, peaking at both the lowest and highest glucose concentrations. A similar non-linear association was observed for sCD40L, but limited to patients without recognized glucose metabolism disorders (CAD group). For associations explored across HbA1c levels (available for CAD + PD and CAD + T2D groups), PF-4 and sCD40L displayed contrasting patterns (*Figure S3*).

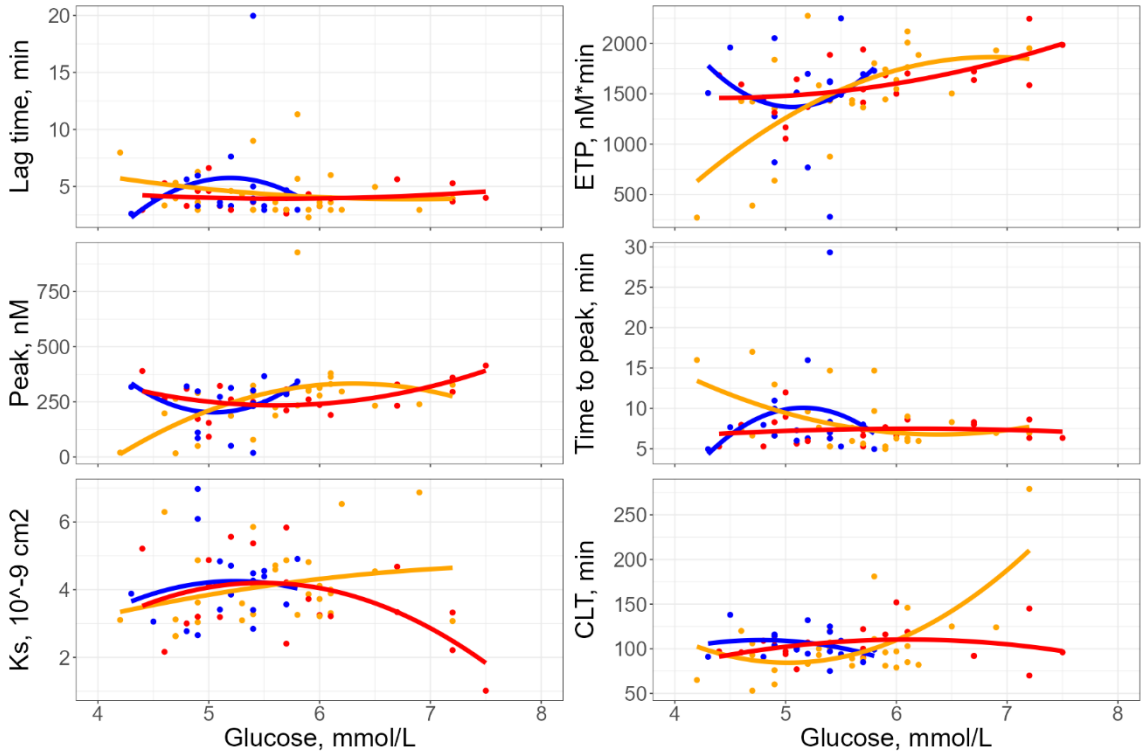

Figure S1. The relationship between thrombin generation, fibrin clot permeation, and lysis across the examined glucose concentrations. Blue line represents the CAD group, orange line represents the CAD + PD group and red line represents CAD + T2D group

Abbreviations: ETP, endogenous thrombin potential; CLT, clot lysis time; Ks, permeation coefficient

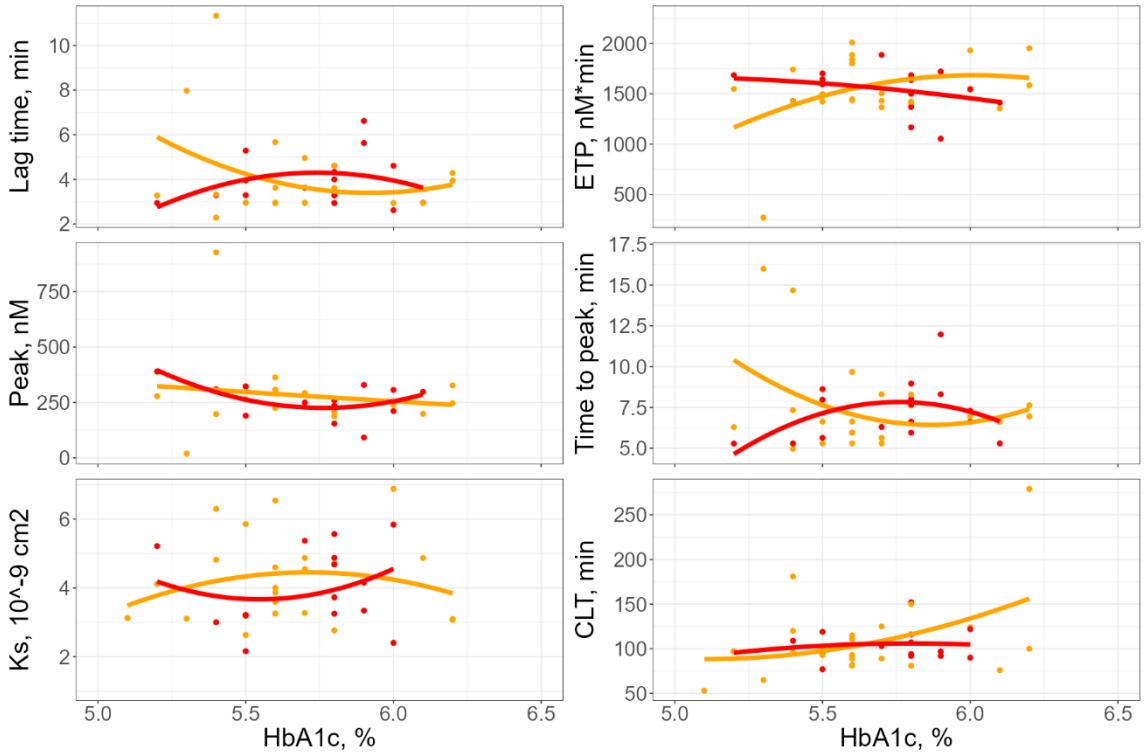

Figure S2. The relationship between thrombin generation, fibrin clot permeation, and lysis across the examined HbA1c concentrations. Orange line represents the CAD + PD group and red line represents CAD + T2D group

Abbreviations: ETP, endogenous thrombin potential; CLT, clot lysis time; Ks, permeation coefficient. HbA1c measurements were performed only in CAD + PD and CAD + T2D groups

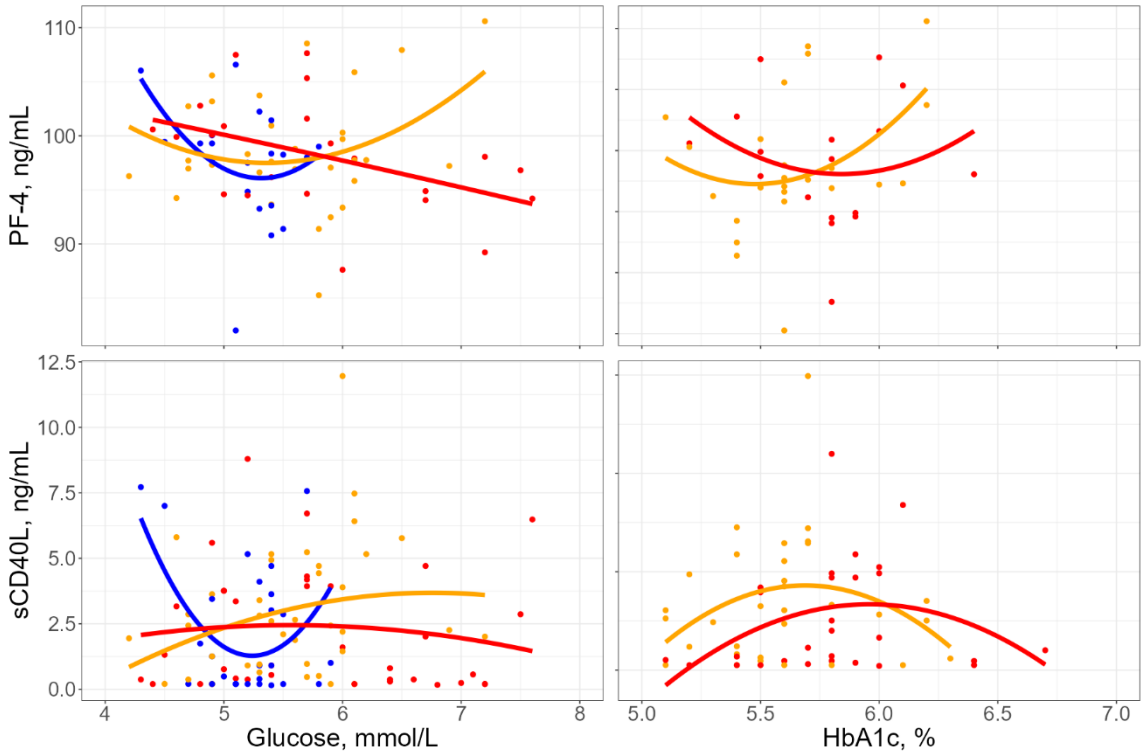

Figure S3. The relationship between platelet activation markers across the examined glucose and HbA1c concentrations. Blue line represents the CAD group, orange line represents the CAD + PD group and red line represents CAD + T2D group

*PF-4 available for n = 80 patients

Abbreviations: PF-4, platelet factor 4; sCD40L, soluble CD40 ligand