

Cardiovascular disease risk at three months postpartum following pregnancy complicated by gestational diabetes mellitus or pre-eclampsia

Fagear Mohamed A, Rosal KC, Treanor JT, Kennelly MM, O’Higgins AC
UCD Centre of Human Reproduction
The Coombe Hospital, Dublin

Objective:

To evaluate the prevalence of cardiovascular disease (CVD) risk factors three months postpartum in women who experienced gestational diabetes mellitus (GDM) or pre-eclampsia (PET) during pregnancy.

Design & Methods:

This prospective cohort study investigated modifiable CVD risk factors in women with a history of GDM and/or PET, assessed between 6 and 15 weeks postpartum. Data collected included blood pressure, BMI, body composition via bioelectrical impedance analysis, waist circumference, fasting glucose, HbA1c, lipid profile, liver function, creatinine, and QRisk3 score. The QRisk3 score—calculated using body weight, blood pressure, and blood test results—was used to estimate the 10-year CVD risk.

Results:

Among the **185** participants, **78.4%** (n = 145) had GDM, **17.8%** (n = 33) had PET, and **3.8%** (n = 7) experienced both conditions. The average age was **34.3** years, and the mean BMI was **31.08** kg/m². A significant proportion (**82.2%**, n = 152) had a waist-to-height ratio greater than 0.5. Figure 1 illustrates the prevalence of abnormal laboratory findings.

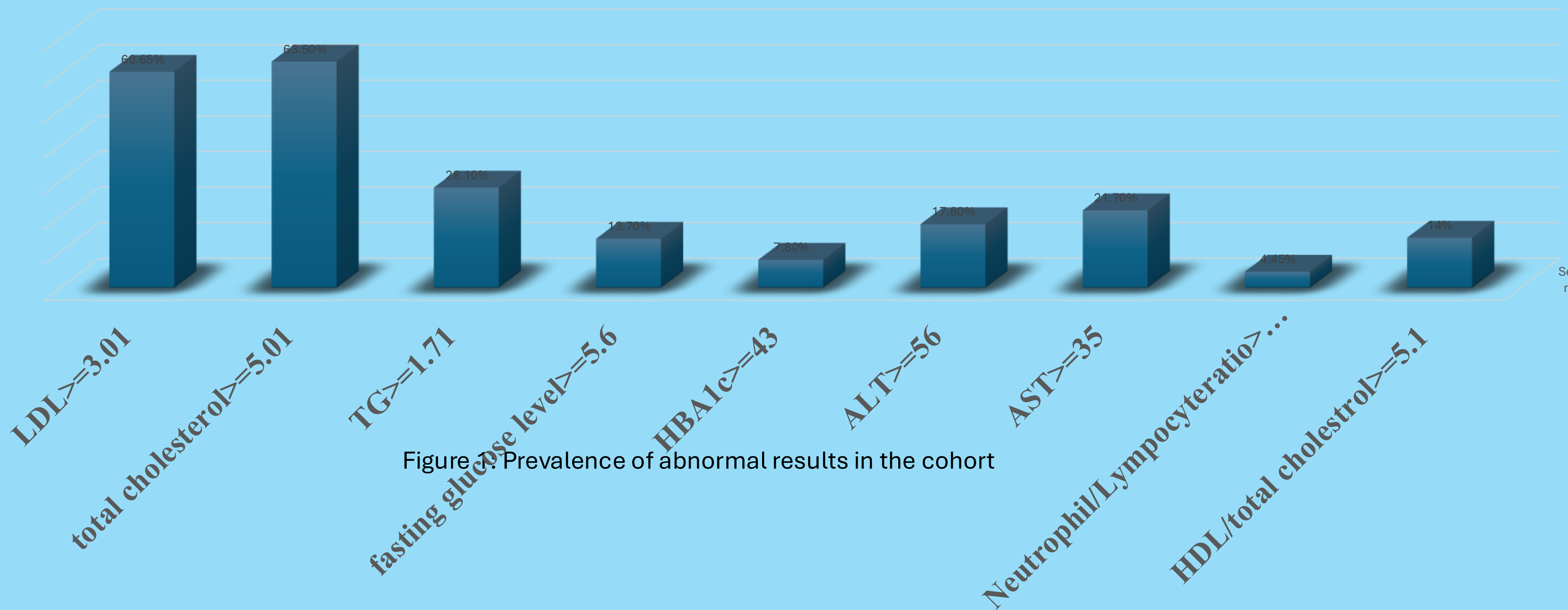


Figure 1: Prevalence of abnormal results in the cohort

QRisk3 Score:

The mean QRisk3 score was **0.59** and was highest in women with both GDM and PET (mean **1.1**) compared to those with PET alone (mean **0.49**) or GDM alone (mean **0.58**) (Figure 2).

Conclusion:

Postpartum women with GDM and/or PET exhibit modifiable CVD risk factors, supporting the postnatal period as an important window for early intervention for CVD risk reduction. Targeted risk prevention strategies could improve long-term cardiovascular health.

Figure 2: QRisk3 score by pregnancy diagnosis

