

Serum Irisin Level Increases Throughout The Gestational Period and It Does Not Play Role in Development of Gestational Diabetes Mellitus

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OBJECTIVES

Irisin is a recently discovered novel adipomyokine that induces an increase in total body energy expenditure, improves insulin sensitivity and glucose tolerance. It has been shown that circulating levels of irisin are low in patients with obesity, diabetes mellitus and impaired glucose tolerance. However, the information about the level of circulating irisin in gestational diabetes mellitus (GDM) is controversial.

METHODS

Serum irisin was measured by an ELISA in a longitudinal prospective cohort study in 221 women. There were 156 healthy pregnant and 65 women with GDM.

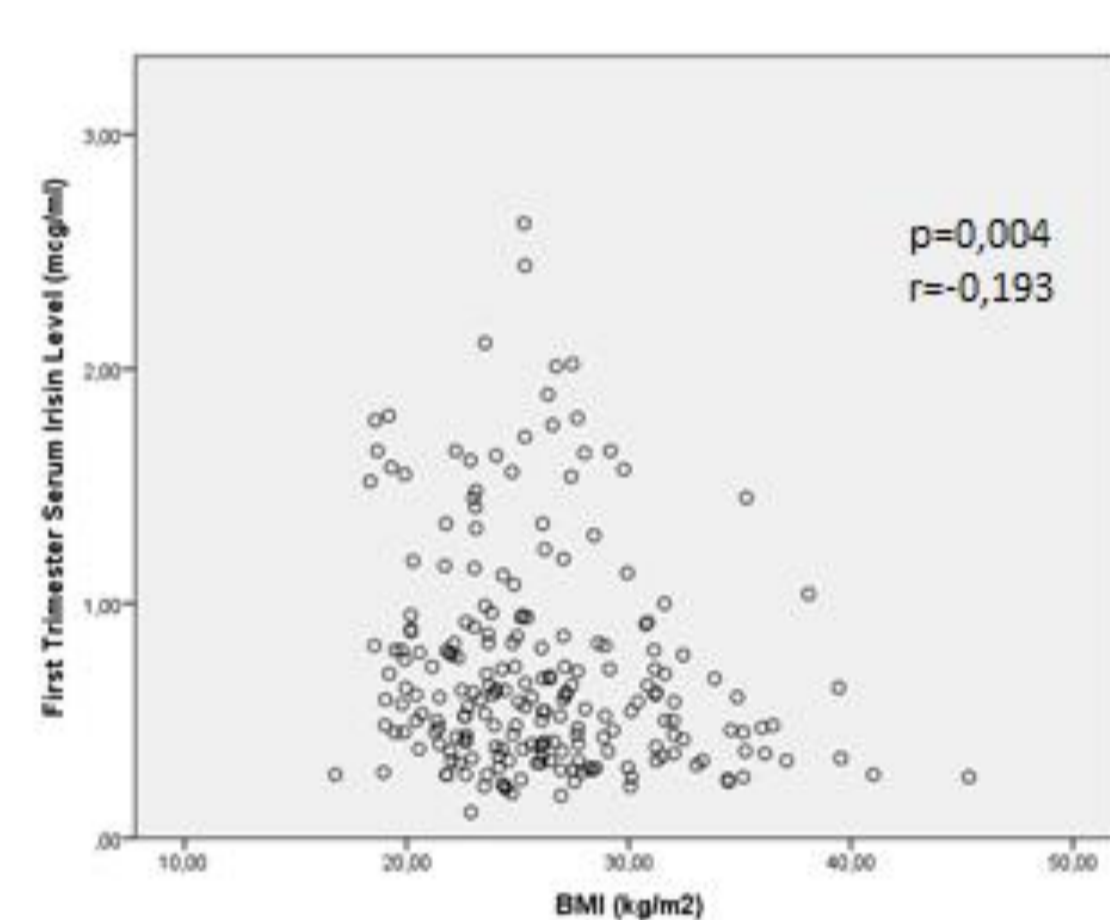


Fig 1. First trimester serum irisin level was negatively correlated with body mass index.

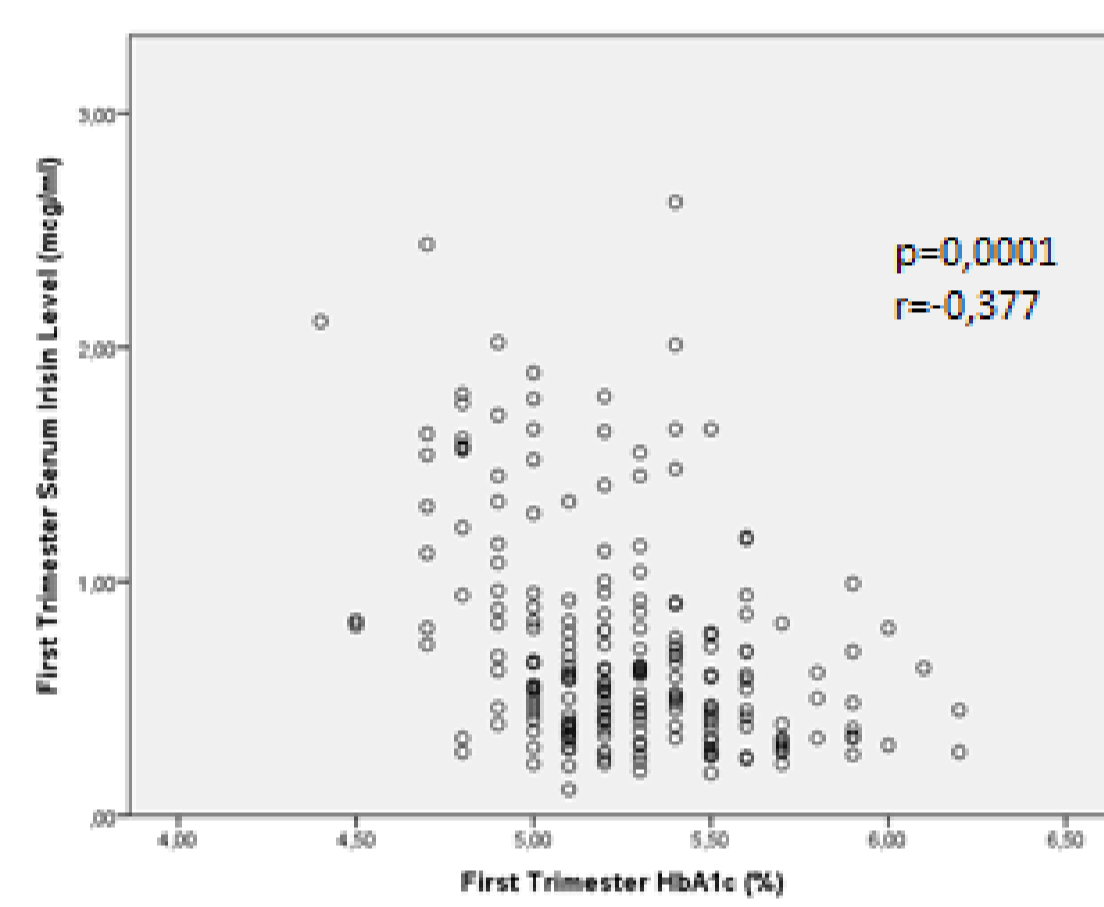


Fig 2. First trimester serum irisin level was negatively correlated with first trimester HbA1c.

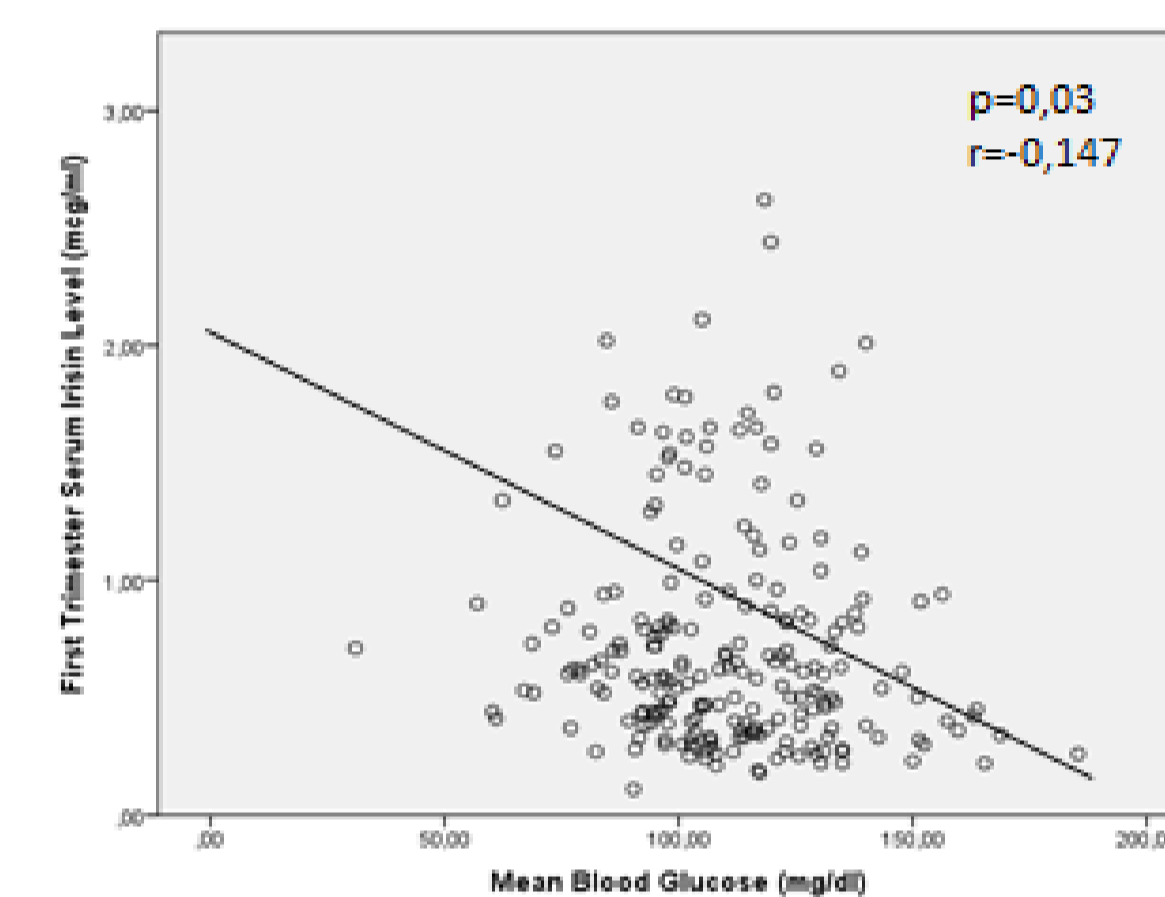


Fig 3. First trimester serum irisin level was negatively correlated with OGTT mean glucose level.

RESULTS

Circulating irisin levels were significantly higher in the middle pregnancy compared with early pregnancy levels in pregnant women.

Serum irisin levels were higher in middle pregnancy with respect to early pregnancy in healthy pregnant women and in women with GDM. Serum irisin levels were found to be lower in GDM compared to healthy pregnant during first trimester but the difference was not observed throughout the pregnancy and it was comparable in middle pregnancy.

There was a significant inverse correlation of BMI with serum irisin ($r = -0.193$, $p = .004$) (Fig. 1) and between HbA1c and mean glucose of OGTT with serum irisin ($r = -0.377$, $p = .0001$) (Fig. 2) and ($r = -0.147$, $p:0.03$) (Fig. 3) in the early pregnancy of pregnant women respectively.

CONCLUSIONS

The present study shows for the first time that serum irisin level increases throughout the gestational period from early to middle pregnancy in women with GDM. But there is no effect of irisin on the development of GDM.

References

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