The effect of uric acid on neonatal birthweight
Nasri KH, Razav M, Rezvanfar M, Mashhadi E, Chehrei A, Mohammadbeigi A
Departments of Obstetrics and Gynecology, 1Endocrinology and 2Thyroid Research Center, Arak University of Medical Sciences, Arak, Arak, Iran

Objective
To investigate the relationship between mid-gestational serum uric acid concentrations and birthweight in diabetic pregnant women with or without insulin resistance.

Methods
In this prospective cohort study fasting uric acid, blood glucose and serum insulin levels were registered in 247 pregnant women at a gestational age of 20-22 weeks. Insulin resistance was estimated using the homeostasis model assessment - insulin resistance (HOMA-IR). Stratification analysis and independent t-test were used to assess the association between uric acid levels and neonatal birthweights in views of insulin resistance.

Results
The means of the mid-gestational serum uric acid concentrations were not significantly different in women with and without insulin resistance, however, stratification analysis showed that there was a significant correlation between uric acid concentrations and macrosomia in diabetic women without insulin resistance.

Conclusion
Increased mid – gestational serum uric acid concentration, even if it does not exceed the normal range, is accompanied by lower birth weight only in non-insulin resistant women. Insulin resistance could have a negative confounding effect on hyperuricaemia and birthweight.