

## IGF-axis in gestational diabetes mellitus

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### Objective

Gestational diabetes affects up to 4% of pregnancies and is associated with high perinatal morbidity and mortality. Aim of this review is to present the IGF-axis in gestational diabetes.

### Methods

We searched the PubMed- MEDLINE database up to January 2022, using key words. 125 studies met our assessment criteria.

### Results

The insulin growth factor (IGF) system is involved in the regulation of fetal and placental growth and development. These actions are mediated through their receptors, which are expressed on distinct placental surfaces. Hence, deregulation of insulin and IGFs may have notable effects on placenta and fetus. Diabetic women have increasing serum concentrations of IGF-I and IGF-II with gestation, reaching a plateau by the third trimester. In maternal diabetes, components of IGF system including insulin, IGF1, IGF2 and various IGF-binding proteins are deregulated in the maternal or fetal circulation, or in the placenta. Therefore, in a GDM, altered insulin, IGF and IGFBPs levels are most likely to influence placental cells in a manner different from normal pregnancies and may be involved in fetal changes observed in diabetes i. e. enhanced placental and fetal growth.

### Conclusion

Available evidence is suggestive but inconclusive concerning whether the IGFaxis is involved in the development of GDM.