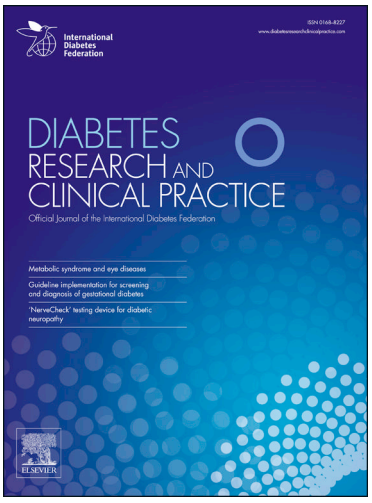

Review

Development of a risk engine relating maternal glycemia and body mass index to pregnancy outcomes

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Title: Development of a risk engine relating maternal glycemia and body mass index to pregnancy outcomes

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Abstract

Aims: To develop a risk "engine" or calculator, integrating the risks of hyperglycemia, maternal BMI and other basic demographic data commonly available at the time of the pregnancy oral glucose tolerance test (OGTT), to predict an individual's absolute risk of specific adverse pregnancy outcomes.

Methods: Data from the Brisbane HAPO cohort was analysed using logistic regression to determine the relationship between four clinical outcomes (primary CS, birth injury, large-for-gestational age, excess neonatal adiposity) with different combinations of OGTT results and maternal demographics (age, height, BMI, parity). Existing sets of international GDM diagnostic criteria were also applied to the cohort.

Results: 191 (15.3%) women were diagnosed as GDM by one or more existing criteria. All international criteria performed poorly compared to risk models utilising OGTT results only, or OGTT results in combination with maternal demographics.

Conclusions: The risk engine's empirical performance on receiver – operator curve analysis was superior to the existing GDM diagnostic criteria tested. This concept shows promise for use in clinical practice, but further development is required.