Blood Glucose Test in Gestational Diabetes Screening: A Forgotten Point

Gestasyonel Diabetes Mellitus Taramasında Kan Glukoz Testi: Unutulan Bir Nokta

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Sir,

There are some new publications on the diagnosis of gestational diabetes mellitus (GDM) by determination of blood glucose. An interesting recent publication by Balaji et al. [1] gives very useful information stating that Diabetes in Pregnancy Study Group India (DIPSI) criterion is a one step-cost effective and evidence-based procedure to diagnose GDM in any socio-economic setting (1). Without question, applying DIPSI and gestational diabetes screening is useful. However, the concern on the blood glucose test should be discussed. In the report by Balaji et al., the glucose oxidase-peroxidase (GOD-POD) method was used. This technique is an old out-of-date technique with several old reports on the interferences (2). The good examples are hemoglobin and oxygenation status, uric acid and common drugs (especially acetaminophen). Therefore, pregnant women with concomitant underlying medical disorders can have the incorrect screening results. Hence, if this technique is selected for blood testing, good control of interference is required. To use a more updated technique for blood glucose determination might be more appropriated. At present, there are also other alternative techniques for glucoses determination (Table 1). Indeed, the selection of the method for measurement must consider many factors, especially the interferences (3-4). The purpose is to derive the most accurate result that is mainly used for judging of diabetes mellitus in the screenees (3). For the case of gestational diabetes screening, the more proper technique might be glucose dehydrogenase method. In addition to the method of determination, more concern should also be given to the performance of specific analyzer (5). Performance evaluation (precision, accuracy, reproducibility, etc.) of the used analyzer is also recommended to yield the best glucose determination.

Key words: Blood glucose, test, gestational diabetes, screening

Table 1. Common techniques for the measurement of blood glucose levels

Technique	Advantage	Limitation
Glucose oxidase	Commonly available	Error in case with anemia and hypoxemia
Glucose dehydrogenase	Has no problem of oxygen tension ence (such as due to peritoneal dialysis)	More expensive than GOP, error in case with maltose interfer
Hexokinase	Referencing method	Not commonly available

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