Retrospective Reassessment of Gestational Diabetes Mellitus Diagnosis by Using the New Classification

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INTRODUCTION

Gestational diabetes mellitus (GDM), a common medical complication of pregnancy, is defined as “glucose intolerance of variable severity with onset or first recognition during pregnancy”.

The release of the new consensus guidelines for testing and diagnosis of gestational diabetes mellitus (GDM) by the International Association of Diabetes and Pregnancy Study Groups (IADPSG)1 and further endorsement of these criteria by The Australasian Diabetes in Pregnancy Society (ADIPS)2 is expected to change the demographic and prevalence rate of gestational diabetes in Australia.

We have reassessed all the 75 gm oral glucose tolerance tests (OGTT) performed during pregnancy in the previous 3 years against the new criteria.

METHODS

Retrospective reassessment of 75gm OGTT was performed on 3650 tests undertaken between January 2011 till May 2014 on females identified by 50 gm glucose load screening at 24-28 weeks gestation.

Glucose screening was undertaken in 12145 pregnancies. We applied the new criteria for the data and reclassified the individual tests.

RESULTS

Use of the new fasting plasma glucose (PG) concentration provided 123 new GDM diagnoses. A further 125 GDM diagnoses were made with the new 1-hour PG concentration. On the other hand, using the new 2-hour PG definition ruled out 241 GDM diagnosed by the old criterion (Table 2). Considering individual women (not tests alone), there were 318 duplicate studies. In these, 12 women would have had an earlier diagnosis of GDM (7 on Fasting concentration and 5 on 1-hour). The overall net change in diagnosis of GDM on OGTT was an additional 7.

Table 2. Numbers of GDM diagnoses by the new criteria versus the old criteria

<table>
<thead>
<tr>
<th></th>
<th>Old Criteria</th>
<th>New Criteria</th>
<th>Change</th>
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<tbody>
<tr>
<td>GDM by fasting PG</td>
<td>161</td>
<td>284</td>
<td>+ 123</td>
</tr>
<tr>
<td>GDM by 1 hr PG</td>
<td>-</td>
<td>125</td>
<td>+ 125</td>
</tr>
<tr>
<td>GDM by 2 hrs PG</td>
<td>892</td>
<td>651</td>
<td>- 241</td>
</tr>
<tr>
<td>Total no of GDM</td>
<td>1053</td>
<td>1060</td>
<td>+ 7</td>
</tr>
<tr>
<td>Total no of all OGTT</td>
<td>3650</td>
<td>3650</td>
<td>-</td>
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</tbody>
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A recent guideline from WHO5 recommends an additional modification of diagnosis. In addition to use of IADPSG criteria, data should be stratified, identifying those women who fulfil the current standard criteria used in diagnosis of diabetes mellitus separately to GDM. If that was applied to our current data, 47 women would have been classified as having this entity of “diabetes mellitus in pregnancy”; 10 women on the basis of fasting glucose concentration ≥ 7 mmol/L, 37 women with 2 hour glucose ≥ 11.1 mmol/L. This represented 4% of all episodes of GDM identified in this study.

CONCLUSION

In reassessing the GDM diagnoses, there is little change in the number of women diagnosed following identification by screening, but 13% of tests were reclassified. However, only 30% of pregnant women had a 2hr OGTT and application of the new recommendations will increase the number of full OGTT undertaken at least 3-fold. The number of new GDM diagnoses is uncertain.

REFERENCES