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Non-alcoholic fatty liver disease in pregnancy, paving the way for adverse pregnancy outcome risk assessment

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According to the current obstetrical practice, blood chemistry tests, such as liver function tests or cholesterol panel, are not included in the initial blood test at first prenatal visit.[1] Moreover, elevated serum cholesterol or triglyceride levels in pregnant women are not taken seriously but rather considered as normal alteration in lipid physiology caused by pregnancy hormones.[2] Therefore, in practice, screening for non-alcoholic fatty liver disease (NAFLD) in pregnancy is easily overlooked and disease-related pregnancy complication are often underestimated.

In the January 2022 issue of the *Clinical and Molecular Hepatology*, El Jamaly et al.[3] reported a systemic review and meta-analysis to assess the association between NAFLD and adverse maternal and fetal outcomes, which provided compelling evidence to support that NAFLD is independently associated with gestational diabetes (GDM) as well as pregnancy-induced hypertension (PIH), including gestational hypertension, preeclampsia (PE), and eclampsia (odds ratio, 2.81, 1.83, 3.24, and 3.91, respectively).[3] Certainly, such finding increases the awareness about NAFLD and adverse pregnancy outcome, but at the same time, raises questions in the context of obstetric care. Should we consider NAFLD in the risk stratification for GDM or PE? Who should be subjected to screening for NAFLD during pregnancy or at postpartum? How should women with NAFLD, having such high metabolic risk, be managed differently during pregnancy? Is there a preventive strategy available for pregnancy-induced diabetes mellitus or hypertension? More studies should follow to assess the potential benefit, or the lack of benefit, of screening a population for NAFLD when the diagnosis is made.

Care should be taken in the interpretation of data herein. The participants were enrolled in this meta-analysis between 1992 and 2019, which is quite a wide time frame.[3] During this period, new GDM screening strategy and diagnostic criteria were introduced. With the adoption of the International Association of the Diabetes and Pregnancy Study Groups diagnostic criteria for the 75-g oral glucose tolerance test (OGTT) in late 2000s, the diagnostic yield for GDM increased by 12%.[4] Meanwhile, the American College of Obstetricians and Gynecologists continued to rec-

Abbreviations:

GDM, gestational diabetes; NAFLD, non-alcoholic fatty liver disease; OGTT, oral glucose tolerance test; PCOS, polycystic ovarian syndrome; PE, preeclampsia; PIH, pregnancy-induced hypertension

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ommend Carpenter-Coustan or National Diabetes Data Group diagnostic threshold for the 100-g OGTT.[5,6] Also, the diagnostic criteria for PE were revised in 2013 to encompass other features of end-organ dysfunction.[7,8] As different criteria will identify different degree of patients, the prevalence of adverse outcomes may differ significantly according to the study period.[9] Therefore, the study period and diagnostic criteria may need to be considered in the risk adjustment.

Patients with conditions that predispose to insulin resistance (e.g., polycystic ovarian syndrome [PCOS])[10] are considered at high risk for GDM and subjected to earlier GDM screening at the initial prenatal visit.[11] We cannot argue with the fact that NAFLD is a manifestation of metabolic syndrome and presence of insulin resistance.[12-14] Therefore, as with PCOS, a patient with NAFLD may also be a potential candidate for stringent GDM screening with the intent of optimizing gestational outcome. However, the current lack of consistency regarding the diagnosis of NAFLD in pregnancy remains a major concern. While ultrasound is commonly employed, due to its low sensitivity and operator-dependency, there is no consensus on the ultrasound criteria to diagnose fatty liver.[15-17] Therefore, building a consensus on the diagnostic criteria, or possibly developing a new ultrasonographic grading system based on the specific relationships to the risk of adverse pregnancy outcome, is warranted.

Conflicts of Interest

The author has no conflicts to disclose.

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