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Fasting Hyperglycaemia as A Screening Tool for Pre-Gestational Diabetes and GDM

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Background

Diabetes mellitus is a silent disease and in women mostly it is first diagnosed during pregnancy, during pre-conceptional care or as an investigation of infertility. The screening tests vary in each country, and the cut-off values vary for diagnosing GDM. A 75 gm GTT carried out during pregnancy usually at between 24-28 weeks is the widely accepted test with any one abnormal value as per IADPSG criteria. But by this gestational age many women with hyperglycaemia are missed as it is not advocated by many during the first trimester, the period of organogenesis and fetal damage is enevitable. Fasting hyperglycaemia as screening tool has been thought of during precenceptional or periconceptional periods.

Review of Studies Regarding Fasting Hyperglycaemia and Pregnancy Outcomes

A retrospective analysis of 6,129 pregnant women with fasting hyperglycaemia, by Shlomit Riskin-Mashiah, in 2009 concluded that women with fasting hyperglycaemia in first trimester of pregnancy were at increased risk of developing GDM later in pregnancy and adverse pregnancy outcomes like increase in congenital malformations, increased CS rates, LGA and pre-eclampsia [1]. The advantage of doing fasting hyperglycaemia is that one can diagnose pre-gestational diabetes also and manage the pregnancy optimally by instituting the management early. The subject of fasting hyperglycaemia as a screening tool when compared to random blood sugar measurement was addressed in a review article by F W F Hanna in 2002 [2]. Risk based screening or universal screening during pregnancy is still a debatable issue as different countries are adopting different policies , most recommending at gestational ages 23-28 weeks however screening prior to 20 weeks is recommended specially so as not to miss pre-gestational diabetes [3].

Fasting blood sugar of 92–124 mg/dL between 9 to 19 gestational weeks, was found to be associated with adverse pregnancy outcomes in a prospective cohort of 19,134 Chinese women [4]. Fasting hyperglycaemia of≥100mg/dl and delay in instituting management was observed to be associated with composite adversing pregnancy outcomes (Pre-eclampsia, neonatal hypoglycaemia, LGA, shoulder dystocia) [5]. The strategy of universal screening identified 15% of those without risk factors for GDM when compared to selective screening of pregnant women with risk factors in a study which included 4518 women [6]. A multicentre retrospective study conducted in China between 2016 1nd 2022 ,compared women with normal FPG and HbA1c levels, women with FPG 5.1–6.9 mmol/L and/or HbA1c 39–46 mmol/mol . They found that women with fasting hyperglycaemia had a 3-fold increased risk of GDM (aOR 3.85; 95% CI 3.52–4.20), and 1-fold higher risk of hypertensive disorders of pregnancy (1.42; 1.20–1.67), shoulder dystocia ,preterm birth large-for-gestational-age, and macrosomia [7].

Conclusion

Adopting the strategy of screening pregnant women by performing fasting blood glucose early in gestation helps in identifying those with hyperglycaemia and adopting optimum

management to prevent adverse pregnancy outcomes.

References

1. Riskin-Mashiah S, Younes G, Damti A, Auslender R (2009) First-trimester fasting hyperglycemia and adverse pregnancy outcomes. Diabetes Care 32(9): 1639-4163.

2. Hanna FW, Peters JR (2002) Screening for gestational diabetes; past, present and future. Diabet Med 19(5): 351-358.

3. Petrovic O (2014) How should we screen for gestational diabetes? Curr Opin Obstet Gynecol 26(2): 54-60.

4. Gao M, Li N, Wang H, Li W, Zhang T, et al. (2025) High fasting plasma glucose in early pregnancy and increased risk of adverse pregnancy outcomes in Chinese women: the role of gestational age. Diabetes research and clinical practice 223: 112126.

5. Cosson E, Vicaut E, Banon DS, Baudry C, Cussac-Pillegand C, et al. (2019) 1404-P: Fasting Hyperglycemia during Pregnancy: Outcomes According to Delay of Care-An Observational Study Including 471 Women. Diabetes 68(Supplement_1): 1404-P.

6. Cosson E, Vicaut E, Sandre-Banon D, Gary F, Pharisien I, et al. (2020) Performance of a selective screening strategy for diagnosis of hyperglycaemia in pregnancy as defined by IADPSG/WHO criteria. Diabetes & Metabolism 46(4): 311-318.

7. Shen L, Zhang S, Wen J, Liu J, Lin X, et al. (2025) Universal screening for hyperglycemia in early pregnancy and the risk of adverse pregnancy outcomes. BMC Pregnancy Childbirth 25, 203.