A CASE REPORT ON IMPACT OF PRE-GESTATIONAL DIABETES MELLITUS ON PREGNANCY OUTCOME IN A WOMEN WITH BAD OBSTETRIC HISTORY

Obstetrics & Gynaecology

Dr. Ayushi N Vazirani

Post Graduate, Department of Obstetrics and Gynaecology, SBMCH.

Dr. Vidhya Selvam*

MS, ASST Professor, Department of Obstetrics and Gynaecology, SBMCH.

*Corresponding Author

ABSTRACT

Background: Perinatal and neonatal mortality remains a challenge in the care of pregnant women worldwide, particularly for those who had a history of adverse outcome in previous pregnancies.

Bad Obstetric History implies previous unfavorable fetal outcome in terms of two or more consecutive spontaneous abortion, H/O intrauterine fetal death, intrauterine growth restriction, stillbirth, early neonatal death and/or congenital anomalies. Age, obesity and high parity have been shown to be independent risk factors for recurrent pregnancy loss and stillbirths. About 3 to 10% of pregnancies are complicated by glycemic control abnormalities. The main underlying cause is lethal embryonic malformations due to glucose teratogenicity at high levels if diabetes is poorly controlled in the periconceptional period and first trimester.

KEYWORDS

INTRODUCTION

Maternal diabetes results in a significantly greater risk for antenatal, perinatal, and neonatal morbidity and mortality as well as congenital malformations. Pre-gestational diabetes mellitus represents one of the most challenging medical complications of pregnancy because of the need for frequent monitoring and adjustment of medications as well as the potential for maternal and fetal complications. In pan India study conducted by FOGSI and DIPSI shows about one-third of the pregnant women are diagnosed with pre gestational diabetes mellitus and gestational diabetes mellitus during the first trimester and over quarter of them have a history of fetal loss in previous pregnancy.

Pre-gestational diabetes mellitus (PGDM) and maternal hyperglycemia during the time of organogenesis is a known teratogen with detrimental effects on the fetal heart, renal, musculoskeletal, and central nervous system. The study based on population showed that there is a five-fold increase in the rate of cardiovascular malformations and more than two-fold increase in the rate of neural tube defects and urinary tract abnormalities in infants of diabetic mothers when compared to the background population.

Case Report

A case of bad obstetric history, 32 year old G6P5L0 residing in Tambaram, Chennai TamilNadu married since 10 years, housewife by occupation and belonging to socioeconomic class III according to modified kuppuswamy's socioeconomic scale.

The first 3 pregnancies resulted in full term normal vaginal deliveries, 4th in LSCS (indication: Transverse lie), 5th in VBAC. All 4 previous pregnancies resulted in early neonatal death due to cardiac malformation resulting in dilated cardiomyopathy. And one intrauterine death, the cause of which is unknown. She was diagnosed to have diabetes mellitus in previous pregnancies and she was not on regular treatment for the same.

The patient visited Sree Balaji Hospital at 8 weeks of gestation and her blood sugar levels were elevated. She was counseled regarding the importance of adequate glycemic control throughout the pregnancy. Patient was advised diabetic diet, she was also started on OHAs and Insulin, with frequent monitoring of blood sugar levels the dose of insulin was titrated accordingly. All routine investigations were done for the patient. First trimester screening was done and was negative. Anomaly scan done and no gross anomalies were detected. Fetal echo was also normal. Fetal growth scan was done to rule out any abnormal fetal growth (macrosomia/growth restriction), also to confirm adequate amniotic fluid index.

She continued her antenatal visits as per high risk pregnancy protocol and her glycemic status was maintained within the normal range.

Antenatal steroids were covered for the patient.

At 35 weeks + 4 days patient was posted for emergency LSCS in view of previous lscs and bad obstetric history with reduced fetal movements.

The patient delivered an alive, girl baby of birth weight 2.588kgs with 1min and 5min apgar score of 8/10, 9/10 respectively.

Neonatal echo was done on day 2 of life and was normal.

Postpartum period was uneventful hence the patient was discharged.

DISCUSSION

The prevalence of diabetes in pregnancy has been increasing worldwide.

The goal is to improve maternal and fetal outcome by universal testing of pregnant women for early diagnosis and management of GDM and PGDM, through its integration in essential ante partum, intra partum and immediate post partum & early neonatal care.

Both GDM and Pre-gestational diabetes mellitus confer greater maternal and fetal risks. Some of them being spontaneous abortion, fetal anomalies, pre-eclampsia, intra-uterine fetal death, macrosomia, neonatal hypoglycemia.

Therefore adequate pre-conceptional and antenatal counseling along with optimization of glycemic status during the period of organogenesis is vital for good fetal and perinatal outcomes.

National Guidelines recommend GDM and PGDM management to be done through either medical nutrition or/and with medical management (Insulin/Metformin).

Insulin can be started anytime during pregnancy for GDM and PGDM management. If insulin is required in high doses, OHAs may be added to the treatment.

Pregnant women with GDM and PGDM should be diligently monitored for hypertension in pregnancy, proteinuria and other obstetric complications. They should be explained about Daily Fetal Activity Assessment.

Essential newborn care as well as maternal care is mandatory to prevent any complication after delivery. Early breastfeeding should be encouraged to prevent neonatal hypoglycemia along diligent monitoring of blood sugar levels of the newborn.

CONCLUSION

Preconceptional and antenatal care for women with pre-gestational diabetes mellitus is effective in reducing rates of congenital malformations, perinatal and early neonatal mortality.

REFERENCES

1. Christiansen OB. A fresh look at the causes and treatments of recurrent miscarriage, especially its immunological aspects. *Hum Reprod Update*. 1996;2:271–293. [PubMed] [Google Scholar]
2. Andersen AMN, Wohlfahrt J, Christens P, Olsen J, Melbye M. Maternal age and fetal loss: population based register linkage study. *BMJ*. 2000;320:1708–1712. [PMC free article] [PubMed] [Google Scholar]
3. Ghio A, Seghieri G, Lencioni C, Anichini R, Bertolotto A, De Bellis A, et al. 1- hour OGTT plasma glucose as a marker of progressive deterioration of insulin secretion and action in pregnant women. *International Journal of Endocrinology*. 2012;Article ID 460509:5 pages.
4. Seshiah V, Das AK, Balaji V, Joshi SR, Parikh MN, Gupta S. Diabetes in Pregnancy Study Group. Gestational diabetes mellitus guidelines. *J Assoc Physicians India*. 2006;54:622-8.
5. Seshiah V, Sahay BK, Das AK, Shah S, Banerjee S, Rao PV, et al. Gestational diabetes mellitus–Indian guidelines. *J Indian Med Assoc*. 2009;107:799-802,804-06.
6. Seshiah V, Balaji V, Balaji MS, Sanjeevi CB, Green A. Gestational diabetes mellitus in India. *J Assoc Phys India*. 2004;52:707-11.
7. Seshiah V, Balaji V, Balaji MS. Prevalence of gestational diabetes mellitus in south India (Tamil Nadu) –a community based study. *J Assoc Physicians India*. 2008;56:329-33.
8. Government of India, Ministry of Health and Family welfare, Nirman Bhavan, New Delhi (DO no. M-12015/93/2011-MCH/2011).
9. American Diabetes Association. Gestational diabetes mellitus. *Diabetic care*. 2003;27:88-90.
10. Seshiah V, Balaji V, Madhuri S Balaji, Aruna Sekar, Sanjeevi CB, Anders Green One step procedure for screening and diagnosis of gestational diabetes mellitus. *J Obstet Gynecol Ind*. 2005;55:525-29.
11. Agrawal S, Gupta AN. Gestational Diabetes. *J Association Physicians of India*. 1982;30:203.
12. Narendra J, Muni Choodeppa C, Gurudas A, Ramprasad AV, Medha VT, Vijalakashmi N, et al. Prevalence of glucose intolerance during pregnancy. *Int J Diabetes Dev Ctries*. 1991;11:2-4.