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A Clinical Study on Gestational Diabetes in a Rural Tertiary Care Hospital

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ABSTRACT
Gestational Diabetes Mellitus is a fairly common medical condition encountered in pregnancy. It poses a challenge to the Obstetrician during the antenatal period, at the time child birth and in the post natal period. The present research aimed at studying the associated risk factors, antenatal complications, labour complications and management of Gestational Diabetes Mellitus in our demographic setting. The present Prospective Hospital based Observational study included 44 subjects diagnosed with Gestational Diabetes Mellitus. All the patients underwent detailed history taking, clinical examination and necessary lab investigations. All the relevant data was collected and analysed. Data was collected in MS Excel and presented as numbers and percentages in the form of tables and figures. GHTN and IUGR (FGR) were each reported in 11% patients. Vaginal infection and anemia were each reported by 2 patients. PROM, Poly hydrambios, MCDA, DCDA and Hyperthyroid were each reported in 2.3% patients.It was found that 66% patients had received MNT. Insulin was also reportedly administered to 66% patients. About 59% patients received Pharmacotherapy (Metformin). Nearly 39% delivered at 38 weeks, 16% each at 37, 39 and 40 weeks. About 9% patients delivered at 36 weeks and 1 patient each delivered at 34 and 35 weeks. Majority of the cases, about 70%, were of Cesarean Section and only 30% cases were of vaginal delivery. 32% patients required induction. In 34% of the cases, NICU admission was required. Antenatal screening for Gestational diabetes Mellitus is mandatory as it can lead to complications during pregnancy and after pregnancy. Further studies considering demographic and socio-economic factors should be carried out to target high risk and low resource populations for screening.

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Key Words
Alarm fatigue, Nurse, Intensive care unit

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INTRODUCTION

Gestational Diabetes Mellitus is a fairly common medical condition encountered in pregnancy. It poses a challenge to the Obstetrician during the antenatal period, at the time child birth and in the post natal period[1].

Gestational diabetes mellitus (GDM) is a form of diabetes that develops during pregnancy, characterized by high blood sugar levels and impaired insulin function. It is typically diagnosed between the 24th and 28th weeks of gestation through an oral glucose tolerance test (OGTT). The diagnostic criteria include fasting blood glucose = 92 mg dL^{-1} (5.1 mmol L^{-1}) and/or a two-hour post-OGTT blood glucose = 153 mg dL^{-1} (8.5 mmol L^{-1})[2]. While GDM may not exhibit noticeable symptoms, increased thirst, frequent urination, fatigue and recurrent infections are common clinical features. Management of GDM involves dietary modifications, regular physical activity, blood glucose monitoring and, in some cases, insulin therapy or oral hypoglycemic medications[3]. It is important to control GDM as it can lead to complications for both the mother and the baby, such as preeclampsia, macrosomia, shoulder dystocia and an increased risk of obesity and type 2 diabetes later in life. Women with GDM also have a higher likelihood of needing a cesarean section delivery[4]. After delivery, blood glucose levels usually return to normal, but postpartum glucose testing is essential to monitor for persistent impaired glucose tolerance or diabetes. Lifestyle modifications, including maintaining a healthy weight, regular exercise and a balanced diet, can help reduce the risk of developing type 2 diabetes in the future. Regular follow-up with healthcare professionals is important for long-term monitoring and preventive measures after experiencing GDM[6-8].

We have undertaken this study the clinical profile of women with gestational diabetes and associated factors.

MATERIALS AND METHODS

Study setting: The present study was conducted at the Departement of Obsterterics and gynaecology, Bhaskar Medical College and General Hospital, Ranga Reddy, Telanagana.

Study design: The present study was a prospective Hospital based Observational study.

Study sample: 44 patients diagnosed with Gestational Diabetes Mellitus were included in the study.

Inclusion criteria: Females diagnosed with gestational diabetes mellitus and who consented were included in the study.

Exclusion criteria: Females who were known diabetics prior to conception and who did not consent were excluded from the study.

Methodology: Diagnosis of Gestational Diabetes Mellitus was made based on the WHO criteria. All the patients underwent detailed history taking and thorough clinical examination. All the necessary antepartum details were recorded. Events during delivery and postpartum were also recorded.

Statistical Analysis: Data was collected in MS Excel and presented as numbers and percentages in the form of tables and figures.

RESULTS AND DISCUSSION

Of the 44 patients considered for the study, 52% were in the age group 20-25 years, 32% of 26-30 years, 9% of 31-35 years, 5% less than 20 years of age and only 2% of age group 36-40 years (Table 1). Primi (G1 cases) were found to be 48% and the rest 52% were Multiparous cases. About 20% patients had full term normal vaginal delivery, while 23% had caesarean section, 5% patients had undergone abortion and 1 patient had undergone hysterectomy. Nearly half of the patients, 46%, were married for 2-5 years, 36% were married for 1 year, 14% were married for 6-10 years and only 2 patients were married for more than 10 years. It was found that most of the patients, nearly 96%, had no consanguinity. About 71% cases reported BMI less than 25 with only 18% cases of BMI in the range 25-29.9. Nearly three-fourths, i.e., 73% patients had no family history of DM. More than 43% patients in the study had GDM diagnosed at 31-35 weeks, while

Table 1: Patient characteristics

Variables	No. of patients (%)
Age	
≤20 years	2 (4.5)
20-25 years	23 (52.3)
26-30 years	14 (31.8)
31-35 years	4 (9.1)
36-40 years	1 (2.3)
Parity	
Primi (G1 cases)	21 (47.7)
Multiparous	23 (52.3)
Previous obstetric history	
Full term normal vaginal delivery	9 (20.5)
Cesarian section	10 (22.7)
Abortion (IUD also)	2 (4.5)
Hysterectomy	1 (2.3)
Marriage length (married for)	
1 year	16 (36.4)
2-5 years	20 (45.5)
6-10 years	6 (13.6)
>10 years	2 (4.5)
Consanguinity	
Yes	2 (4.5)
No	42 (95.5)
BMI	
<25	31 (70.5)
25-29.9	8 (18.2)
Family history of DM	
Yes	12 (27.3)
No	32 (72.7)

Table 2: Obstetric history

Present obstetric history	No. of patients (%)
GDM diagnosed	
14-17 weeks	4 (9.1)
18-21 weeks	2 (4.5)
22-26 weeks	0 (0)
27-30 weeks	9 (20.5)
31-35 weeks	19 (43.2)
36-40 weeks	8 (18.2)
Antepartum complications	
No Complications	21 (47.7)
GHTN	5 (11.4)
IUGR (FGR)	5 (11.4)
PROM	1 (2.3)
Vaginal infection	2 (4.5)
Poly hydrambios	1 (2.3)
Oligo hydrambios	0 (0)
MCDA	1 (2.3)
DCDA	1 (2.3)
Anemia	2 (4.5)
Hyperthyroid	1 (2.3)

Table 3: Management of GDM

Management	No. of patients (%)
MNT	29 (65.9)
Pharmacotherapy (Metformin)	17 (58.6)
Insulin	29 (65.9)

Table 4: Parturition and events following delivery

Variables	No. of patients (%)
Delivery	
34 weeks	1 (2.3)
35 weeks	1 (2.3)
36 weeks	4 (9.1)
37 weeks	7 (15.9)
38 weeks	17 (38.6)
39 weeks	7 (15.9)
40 weeks	7 (15.9)
Mode of delivery	
Vaginal delivery	13 (29.5)
Cesarean section	31 (70.5)
Induction required	
Yes (miso)	14 (31.8)
No	30 (68.2)
Baby weight	
<2.5 kg	11 (25.0)
≥2.5 kg	33 (75.0)
NICU admission	
Yes	15 (34.1)
No	29 (65.9)

20.5% had at 27-30 weeks, 18% at 36-40 weeks, 9% at 14-17 weeks and only 4.5% at 18-21 weeks. No patient was found to have GDM diagnosed at 22-26 weeks period. Nearly half the patients, i.e., 48%, reported no antepartum complications, while GHTN and IUGR (FGR) were each reported in 11% patients (Table 2). Vaginal infection and anemia were each reported by 2 patients. PROM, Poly hydrambios, MCDA, DCDA and Hyperthyroid were each reported in 2.3% patients. It was found that 66% patients had received MNT. Insulin was also reportedly administered to 66% patients. About 59% patients received Pharmacotherapy (Metformin) (Table 3). Of the 44 patients taken in the study, nearly 39% delivered at 38 weeks, 16% each at 37, 39 and 40 weeks. About 9% patients delivered at 36 weeks and 1 patient each delivered at 34 and 35 weeks (Table 4). Majority of the cases, about 70%, were of Cesarean Section and only 30% cases were of vaginal delivery. About 32% patients required induction, while 68% patients did not. In 34% of the cases, NICU admission was required. Similar studies by other authors have also been reported[7].

CONCLUSION

Antenatal screening for Gestational diabetes Mellitus is mandatory as it can lead to complications during pregnancy and after pregnancy. Further studies considering demographic and socio-economic factors should be carried out to target high risk and low resource populations for screening.

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