

Fetomaternal Outcome In Case Of Hyperemesis Gravidarum- A Prospective Cohort Study.

¹. Dr. Piyusha Chandrayan (Associate Prof, OBGY)

². Dr. Soumya (R2 OBGY)

³. Dr. Priyamvada Singh (SR, Paediatrics)

Corresponding Author : Dr. Soumya (R2 OBGY)

ABSTRACT

BACKGROUND

Hyperemesis gravidarum (HG) is a very common complication in pregnancy. It is also the most common cause for hospital admission in the first trimester of pregnancy. The main complications of the condition happen due to electrolyte imbalance and dehydration. Fetal complications occur in the form of Low birth weight babies with long-term psychological side effects. Since the exact etiopathology is not known, rise in beta HCG during pregnancy is attributed to be causing HG as it increased the gastrointestinal secretions. The diagnosis is clinical and is managed symptomatically.

MATERIAL & METHOD

All pregnancies that ended up delivering with the diagnosis of Hyperemesis Gravidarum in the first 20 weeks of gestation were taken up for the study. The study was conducted between September 2019 to April 2020. A total of 50 cases and 50 controls were taken.

The data was analyzed by standard tests.

RESULT

The result obtained was as follows- In this study we found the mean age for HG being 24.7, mean height 156.2 cm, mean BMI being 23.5. The weight gain during pregnancy was approximately 7.6 kg. Approximately ten percent of the HG patients developed GDM later on during the pregnancy and 8.3 % of them developed Preeclampsia. The average parity was 1.61 and the average birth weight was 2.71 kg. Four percent of the babies were low birth weight, the propensity of which was higher in the patients having only vomiting, it being 5 %.

CONCLUSION

HG has a very high prevalence and few diet modifications, lifestyle changes in the early gestation maybe helpful or else pharmacotherapy is needed after that.

KEYWORDS

First trimester

Gestational Diabetes Mellitus (GDM)

Hyperemesis gravidarum (HG)

Low birth weight

Preeclampsia

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I. INTRODUCTION

Hyperemesis gravidarum (HG) is a condition of excessive vomiting which may harm the maternal condition and may hamper her routine life ⁽¹⁾ and its triad of symptoms includes, more than 5 % of pre pregnancy weight loss, dehydration and electrolyte imbalance ⁽¹⁾. Its occurrence is 0.3-2 % of all pregnancies ⁽²⁾. Most of the women who have had a hospital admission in the first trimester of pregnancy had HG ⁽³⁾. Although Human chorionic gonadotropin hormone remains to be the most likely cause of HG, which stimulates the upper gastro-intestinal tract's secretory function or the thyroid function due to its structural similarity to TSH. But the exact mechanism of influence of HCG on HG is still unclear and the treatment mainly remains symptomatic and supportive ⁽⁴⁾. There are other theories besides the hormonal theory of HCG which state that HG can occur due to 1. Psychogenic factors 2. Dietary deficiency of Vit. B6 and B1 3. Due to allergic or immunological basis and 5. Due to decreased gastric motility ⁽¹⁾. The diagnosis of HG mainly remains clinical. The onset of symptoms usually start between 6 to 8 weeks of gestation with its incidence being maximum at 12 weeks ⁽⁵⁾. The condition may have maternal as well as fetal outcomes. The maternal complications include imbalance in the electrolytes, various nutritional deficiencies as well as Wernicke's encephalopathy. Lesser seen complications

include, Esophageal trauma, thrombosis and complications related to cerebrovascular spasm⁽⁶⁾. Due to HG, women often find it difficult to take multiple sick leaves and it raises the ergonomic burden on the mother as well as the society. Recurrence of HG in the subsequent pregnancies is also common.

Fetuses of the mothers suffering from HG may have long-term complications like high levels of serum cortisol, reduced insulin sensitivity as well as mood and psychiatric problems in the later stages⁽⁶⁾. Low birth weight (LBW) is also a known complication of HG. The consequences of LBW include an increase in perinatal morbidity and mortality. The long-term complications include High BP and cardio-vascular disease.

This study was conducted to find out the fetomaternal outcome in the women having hyperemesis gravidarum.

II. MATERIAL AND METHODS

AIMS AND OBJECTIVES

1) To study fetomaternal outcome in hyperemesis gravidarum.

This was a prospective comparative study conducted in the department of Obstetrics and Gynaecology of Dhiraj General Hospital, Vadodara in the time period between September 2019 and April 2020. A total of 100 pregnant women in the first trimester of pregnancy, 50 in the control group (with no HG) and 50 in the HG group.

Inclusion criteria:

All pregnancies that ended up delivering with the diagnosis of Hyperemesis Gravidarum in the first 20 weeks of gestation meeting the ICD -10 diagnosis codes of 021 (which states excessive vomiting in pregnancy), 021.0 (which states HG, mild or unspecified, starting before 22nd week of gestation), 021.1 (HG before 22 weeks of gestation with electrolyte imbalance, and 021.9 (which mentions vomiting of pregnancy, unspecified), were included in the study.

Exclusion criteria:

Women that had pre-existing chronic hypertension, diabetes mellitus, renal/liver/thyroid disorder, epilepsy, etc) were excluded from the study.

To all pregnant patients that came to Outpatient Department or the Labour room of Dhiraj general hospital, the nature, purpose, risk and benefits of this study was explained. Informed consent was taken from all patients participating in study. The patients were categorised into 2 groups: 50 controls and 50 HG patients. Patient's vitals (Temperature, Pulse and Blood pressure) their general condition, weight gain, obstetrics, past, personal, family history were taken. Various investigations like Complete Blood Count, Serum electrolytes, Liver Function Test, Renal function Tests, Urine routine and microscopy as well as Urine ketone were collected from the patients with suspected HG and they were compared with the patients not suffering from HG. Data was analyzed using appropriate statistical tests.

III. RESULT

In the present study it was found that out of 50 patients with HG, 38 had both nausea and vomiting, 10 of them had only nausea and 2 of them had only vomiting. The mean age for HG with nausea and vomiting was 24.7 years. The mean height was 156.2 cm and the mean BMI Being 23.5. The weight gain during pregnancy was approximately 7.6 kg. Approximately, ten percent of the HG patients developed GDM later on during the pregnancy and 8.3 % of them developed Pre-eclampsia. The average parity was 1.61 and the average birth weight was 2.71 kg. Four percent of the babies were low birth weight, the propensity of which was higher in the patients having only vomiting, it being 5 %. Prematurity and small for gestational age were more common complications amongst the HG group having only Vomiting..

Vomiting in pregnancy can be due various reasons, some of them have been mentioned in table 4.

In our study we also found out that Multiple pregnancies, Gastrointestinal diseases, anorexia, Urinary tract infections and Anemia are some of the predisposing factors for HG.

Table 1: Characteristics of the HG patients

Characteristics	Nausea and vomiting	nausea only	Vomiting
N	28	10	12
Age (Yrs)	24.7	23.6	23.2
Height (m)	156.2	158.2	157.9
Pre-pregnancy Weight (kg)	56.4	58.2	59.6
Pre-pregnancy BMI(Kg/m ²)	23.5	24.1	24.6
Weight gain During pregnancy (Kg)	7.6	8.3	8.8
Developed GDM (%)	10.5	9.3	9.6
Developed gestational Hypertension(%)	8.3	6.2	8.6

Table 2: Birth related factors associated with HG.

Birth-related factor	Both nausea And vomiting	only nausea	Vomiting
N	28	10	12
Parity (n)	1.61	1.69	1.78
Birth weight (kg)	2.71	3.06	2.85
Gestational age at birth (weeks)	39.4		39.5
Adjusted birth weight (kg)	2.59	2.96	2.61
Low Birth Weight (%)	4	2.5	5
Prematurity (%)	5	7.5	11.2
Small for gestational age (n (%))	2(4)	3(6)	7(14)
Gender of the baby (n (%)) male)	16(32)	6(12)	5(10)

Table 3: Antenatal risk- factors with hyperemesis gravidarum.

RISK FACTORS	N(%)
None	13(26)
Multiple pregnancy	7(14)
Gastro-intestinal diseases	20(40)

Anorexia	3(6)
Urinary tract infection (UTI)	14(28)
Anemia	24(48)
Anemia and Gastro-intestinal diseases	2(4)

IV. DISCUSSION

Hyperemesis Gravidarum is a severe complication in a pregnancy. The average age being 26-30 years, which was also a similar in a study done by Fiaschi et al⁽⁷⁾. But it contradicts the findings of another study conducted by Mahmoud GA⁽⁸⁾. As most of the hospital admissions took place in the first trimester, we found that a similar result was obtained from a study conducted by Mahmoud as well as Kuru^(8,9). Various LBW related complications happened and they were also reported in other studies as well.

V. CONCLUSION

HG has a very high prevalence and few diet modifications, lifestyle changes in the early gestation maybe helpful or else pharmacotherapy is needed after that

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