

A Hospital Based Observational Study of Maternal and Fetal Outcomes in Pregnant Women with Hyperemesis Gravidarum in A Tertiary Care Hospital

Dr Nootan Dayal¹, Dr Manjula Srivastava^{2*}

¹Associate Professor, Department of Obstetrics and Gynecology, M.G.M. Medical College, Jamshedpur, Jharkhand.

²Associate Professor, Department of Obstetrics and Gynecology, M.G.M. Medical College, Jamshedpur, Jharkhand.

Corresponding Author: Dr Manjula Srivastava

Abstract

Introduction: Nausea and vomiting are among the commonest experiences by women during pregnancy. It may affect 70–80% of all pregnant women.¹ Majority of the pregnant women experiences nausea and vomiting mostly during the first trimester. Very limited number of limited women have a prolonged course with symptoms extending until delivery.²

Materials and Methods: This study was conducted at department of Obstetrics and Gynecology, MGM Medical College and Hospital, Jamshedpur for the duration of one year from January 2018 to December 2018. Despite a high prevalence, studies exploring underlying etiology and treatments are limited. A hospital-based prospective observational study was carried out to analyse the impact of hyperemesis Gravidarum on the maternal and fetal outcome. Written informed consent was obtained from patient before enrolling them into the study.

Results: In our study 42.5% were in the age group between 20- 25 years. 27.5% were in age group between 26-20 years. 20.83% were in the age group between 31-35 years. 9.16% were more than 36 years old. (Table I). In our majority were Primi gravida (38.33%), Gravida 2 were (31.66%), Gravida3 were (18.33%), Gravida4 were (11.66%)-Table II. When gestational age is taken in to consideration majority were between 7-10 weeks (23.33%), less than 6 weeks were (30%), More than 11- 14 weeks were (20.83%), 15-20 weeks were (13.33%), More than 20 weeks were (12.5%) -Table III. When Etiological factor is taken in to consideration more than 35 (29.16%) were idiopathic. 15% were multiple pregnancy, 6.66% were due to vesicular mole. Ectopic pregnancy attributed to 5%. History of hyperemesis in previous pregnancy noted in 18.33% of women. Psychological stress was noticed in 11.66% of individuals, Pre-eclampsia was 8.33%, Acute fatty liver of pregnancy was 5.83% - Table IV.

Conclusion: The majority of pregnant women experience some type of morning sickness (70-80%). Recent studies show that cases of extreme morning sickness called hyperemesis Gravidarum (HG) are reported by those who treated in a hospital but the numbers are expected to be much higher than this since many women are treated at home or by outpatient care with their health care provider. If not recognized and treated appropriately in time may result in complications leading to morbidity and mortality. In our study there is no mortality.

Key Words: hyperemesis Gravidarum, morbidity, mortality

Date of Submission: 04-04-2019

Date of acceptance: 19-04-2019

I. Introduction

Nausea and vomiting are among the commonest experiences by women during pregnancy. It may affect 70–80% of all pregnant women.¹ Majority of the pregnant women experiences nausea and vomiting mostly during the first trimester. Very limited number of limited women have a prolonged course with symptoms extending until delivery.² Most of the pregnant women with nausea and vomiting can self-manage their symptoms by avoiding triggering factors/food and adequate oral hydration.³ The remaining pregnant women have more severe and protracted symptoms which leads to physical and psychosocial sequelae.⁴ This type of the most severe form of nausea and vomiting in pregnancy (NVP) is referred to as hyperemesis Gravidarum (HG).⁵

According to World Health Organization, Hyperemesis Gravidarum (HG) is characterised by severe NVP starting before the 22nd week of gestation and can occur with or without metabolic disturbances.⁶ HG is the most common cause of hospitalization during the first half of pregnancy and is second only to preterm labor

for hospitalizations in overall pregnancy in USA.⁷ The prevalence of HG may varies from 0.3% to 3% of pregnancies depending on ethnic variation in study populations.⁷ Pregnant women of Western Europe had the lowest prevalence (0.8%) of HG, whereas those of India and Sri Lanka had the highest prevalence (3.2%) of HG.⁸ Despite extensive research in this field, the mechanism of the disease is largely unknown.⁷

There are literatures available, which associate HG with adverse fetal pregnancy outcomes like low birth weight, pre-term birth, and small-for-gestational age (SGA) infants.⁹⁻¹¹

But one of the same systematic review also not able to identified any association of HG with Apgar scores, congenital anomalies, or perinatal death.⁹ HG causes emotional and psychological disturbances and can grossly adversely affect quality of life of pregnant women. HG can also affect behavioural and cognitive function, work capacity, household activities and interaction with children of pregnant women.^{12,13} HG is associated with maternal weight loss, nutritional deficiencies, fluid and electrolyte abnormalities, which may lead to adverse fetal and maternal outcomes.^{14,15}

II. Aims and Objectives of the Study

- To study the incidence of hyperemesis Gravidarum in pregnancy during study period.
- To know the complications of hyperemesis Gravidarum in pregnancy during study period.
- To study the maternal and fetal outcome in pregnancy during study period.
- To examine current perspectives and recent developments in hyperemesis Gravidarum.

III. Materials And Methods

This study was conducted at department of Obstetrics and Gynecology, MGM Medical College and Hospital, Jamshedpur for the duration of one year from January 2018 to December 2018. Despite a high prevalence, studies exploring underlying etiology and treatments are limited. A hospital-based prospective observational study was carried out to analyse the impact of hyperemesis Gravidarum on the maternal and fetal outcome. Written informed consent was obtained from patient before enrolling them into the study.

Inclusion Criteria

All AN mothers with history of projectile vomiting were included in the study.

Exclusion Criteria

1. gastroenteritis.
2. pyelonephritis.
3. diabetic ketoacidosis.
4. appendicitis.
5. cholecystitis.
6. acid peptic disease.
7. torsion of ovaries.

Antenatal mothers attended Antenatal outpatient department from the period of January 2018-December 2018 were analysed. Women with complaints of excessive vomiting were included in the study. Nonobstetric causes were excluded. From the period of January 2018-December 2018, 5439 Antenatal mothers attended our outpatient department. Out of these 120 women were diagnosed as hyperemesis Gravidarum, our incidence is 2.20%. Factors such as age, parity, gestational age, causative factors, maternal and fetal outcome, duration of hospital stay, dreadful complications and need for ventilator support were assessed.

IV. Results

In our study 42.5% were in the age group between 20- 25 years. 27.5% were in age group between vi26-30 years. 20.83% were in the age group between 31-35 years. 9.16% were more than 36 years old. (Table I)

Age in Years	N=120	Percentage
20-25 years	51	42.5
26-30 years	33	27.5
31-35 years	25	20.83
>36 years	11	9.16

Table 1: Age of Study Population (n=120)

In our majority were Primi gravida (38.33%), Gravida 2 were (31.66%), Gravida3 were (18.33%), Gravida4 were (11.66%)-Table II.

Gravidity	N=120	Percentage
Primi Gravida	46	38.33
Gravida 2	38	31.66
Gravida 3	22	18.33
Gravida 4	14	11.66

Table 2: Parity wise distribution (n=120)

When gestational age is taken in to consideration majority were between 7-10 weeks (23.33%), less than 6 weeks were (30%), More than 11- 14 weeks were (20.83%), 15-20 weeks were (13.33%), More than 20 weeks were (12.5%)-Table III.

Gestational Age	N=120	Percentage
<6 Weeks	28	23.33
7-10 Weeks	36	30
>11-14 Weeks	25	20.83
15-20 Weeks	16	13.33
>20 Weeks	15	12.5

Table 3: Pregnancy duration in weeks at presentation

When Etiological factor is taken in to consideration more than 35 (29.16%) were idiopathic. 15% were multiple pregnancy, 6.66% were due to vesicular mole. Ectopic pregnancy attributed to 5%. History of hyperemesis in previous pregnancy noted in 18.33% of women. Psychological stress was noticed in 11.66% of individuals, Pre-eclampsia was 8.33%, Acute fatty liver of pregnancy was 5.83% - Table IV.

Risk Factor	N=120	Percentage
Idiopathic	35	29.16
Multiple Pregnancy	18	15
Vesicular mole	8	6.66
Ectopic Pregnancy	6	5
H/O of hyperemesis in previous pregnancy	22	18.33
Psychological Stress	14	11.66
Pre-eclampsia	10	8.33
Acute fatty liver of pregnancy	7	5.83

Table 4: Causes

In our study there was no maternal mortality. Morbidities such as Ketosis, Wernicke encephalopathy, Korsakoff psychosis, Blurring of vision/retinal haemorrhage, Peripheral neuritis, Jaundice, Central pontine myelolysis, Electrolyte imbalance, Metabolic acidosis were identified – Table V.

Maternal Complications	N=120	Percentage
No complications	60	50
Dehydration	23	19.16
Ketosis	16	13.33
Wernicke encephalopathy	3	2.5
Korsakoff psychosis	2	1.66
Blurring of vision / retinal haemorrhage	1	0.83
Peripheral neuritis	1	0.83
Jaundice	3	2.5
Central pontine myelinolysis	1	0.83

Electrolyte imbalance	6	6.66
Metabolic acidosis	4	3.33
Maternal Death	0	0

Table 5: Maternal Complications

Fetal complication such as Miscarriage, Preterm labour, FGR were diagnosed in our study. Due to dreadful complication such as Central pontine myelinolysis, retinal haemorrhage, Metabolic acidosis 6.6% of women underwent Medical termination of pregnancy – Table VI.

Fetal Outcome	N=120	Percentage
MTP	8	6.66
Miscarriage	9	7.5
Preterm labour	10	8.33
FGR	21	17.5
Good Outcome	72	60

Table 6: Fetal Outcome

V. Discussion

Vomiting is a common condition affecting about 50% of pregnant women, with another 25% having nausea.¹⁵

In this study, we found that the incidence of HG- 1.5%-- The risk factors for HG were preeclampsia, Multiple pregnancy, h/o hyperemesis in previous pregnancy, Psychological stress¹⁶. Patients with HG had increased risk of adverse maternal and foetal outcomes More recent studies suggest a genetic component. Women with **Hyperemesis Gravidarum** were hospitalized and evaluated. Symptoms such as vomiting, constipation, altered mental status, thirst and reduced urine output were monitored.

Complete blood examination, renal function tests, liver function tests, blood glucose, serum electrolytes were carried out.MRI brain done for a comatosed patient with central pontine myelinolysis.¹⁷

Women were kept nil oral till dehydration were corrected. dehydration corrected with crystalloids. double strength saline was avoided as it can lead to central pontine myelinolysis due to development of rapid correction of hyponatremia. During our study period we had one case of central pontine myelosis who got treated for hyponatremia. Thiamine supplementation 100 mg IV given for women with wernickes encephalopathy. Induced abortion opted for women with persistant severe vomiting after one week of treatment, retinal haemorrhage, oliguria and wernickes encephalopathy in the interests of patients well being and to prevent mortality.

The effects of **Hyperemesis Gravidarum** on the fetus are mainly due to electrolyte imbalances caused by HG in the mother. In our study 6.6% underwent induced abortion.

VI. Conclusion

The majority of pregnant women experience some type of morning sickness (70-80%). Recent studies show that cases of extreme morning sickness called hyperemesis Gravidarum (HG) are reported by those who treated in a hospital but the numbers are expected to be much higher than this since many women are treated at home or by outpatient care with their health care provider. If not recognized and treated appropriately in time may result in complications leading to morbidity and mortality. In our study there is no mortality.

References

- [1]. Ismail SK, Kenny L. Review on hyperemesis Gravidarum. Best Pract Res ClinGastroenterol2007;21(5):755–69.
- [2]. Koren G, Boskovic R, Hard M, Maltepe C, Navioz Y, Einarson A.Motherisk-PUQE (pregnancy-unique quantification of emesis and nausea) scoring system for nausea and vomiting of pregnancy. Am J ObstetGynecol 2002;186(5):S228–31.
- [3]. Koren G, Piwko C, Ahn E, Boskovic R, Maltepe C, Einarson A, et al. Validation studies of the Pregnancy UniqueQuantification of Emesis (PUQE) scores. J ObstetGynaecol 2005;25(3):241–4.
- [4]. Attard CL, Kohli MA, Coleman S, Bradley C, Hux M, Atanackovic G, et al. The burden of illness of severe nausea vomiting of pregnancy in United States. Am J ObstetGynecol2002;186(5):S220–7.
- [5]. Bashiri A, Neumann L, Maymon E, Katz M. Hyperemesis Gravidarum: epidemiologic features, complications and outcome. Eur JObstetGynecolReprodBiol 1995;63(2):135–8.
- [6]. Bailit JL. Hyperemesis Gravidarum: epidemiologic findings from a large cohort. Am J ObstetGynecol 2005;193(3 Pt 1):811–4.
- [7]. Tsang IS, Katz VL, Wells SD. Maternal and fetal outcomes in hyperemesis Gravidarum. Int J GynaecolObstet 1996;55(3):231–5.
- [8]. Gazmararian JA, Petersen R, Jamieson DJ,Schild L, Adams MM, Deshpande AD, et al. Hospitalizations during pregnancy among managed care enrollees. ObstetGynecol 2002;100(1):94–100.
- [9]. Giri A, Tuladhar A, Tuladhar H. Hyperemesis Gravidarum and obstetric outcome. Nepal JObstetGynaecol 2011;6(2):24–6.

- [10]. Dodds L, Fell DB, Joseph KS, Allen VM, Butler B. Outcomes of pregnancies complicated by hyperemesis Gravidarum. *ObstetGynecol* 2006;107(2 Pt 1):285-92.
- [11]. Klebanoff MA, Koslowe PA, Kaslow R, Rhodes GG. Epidemiology of vomiting in early pregnancy. *ObstetGynecol* 1985;66(5):612-6.
- [12]. Price A, Davies R, Heller SR, Milford-Ward A, Weetman AP. Asian women are at risk of gestational thyrotoxicosis. *J ClinEndocrinolMetab* 1996;81(3):1160-3.
- [13]. Fejzo MS, Ingles SA, Wilson M, Wang W, MacGibbon K, Romero R, et al. High prevalence of severe nausea and vomiting of pregnancy and hyperemesis Gravidarum among relatives of affected individuals. *Eur J ObstetGynecolReprodBiol* 2008;141(1):13-7.
- [14]. Sullivan CA, Johnson CA, Roach H, Martin RW, Stewart DK, Morrison JC. A pilot study of intravenous ondansetron for hyperemesis Gravidarum. *Am J ObstetGynecol* 1996;174(5):1565-8.
- [15]. Fell DB, Dodds L, Joseph KS, Allen VM, Butler B. Risk factors for hyperemesis Gravidarum requiring hospital admission during pregnancy. *ObstetGynecol* 2006;107(2 Pt 1):277-84

Dr Manjula Srivastava. "A Hospital Based Observational Study of Maternal and Fetal Outcomes in Pregnant Women with Hyperemesis Gravidarum in A Tertiary Care Hospital." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 18, no. 04, 2019, pp 01-05.