

Analysis of Pregnant Woman with Hyperemesis Gravidarum in a Tertiary Care Center

M. Poovathi*, Gayathridevi

*Prof & HOD, KAPV Government Medical College, Thiruchirapalli, Tamilnadu, India.
Assistant Professor, KAPV Government Medical College, Thiruchirapalli, Tamilnadu, India.
drmpoovathi@gmail.com

***Corresponding Author:** M. Poovathi, Prof & HOD, KAPV Government Medical College, Thiruchirapalli, Tamilnadu, India.

Abstract

Hyperemesis gravidarum (HG) is a pregnancy complication that is characterized by severe nausea, vomiting, weight loss, and possibly dehydration.^[1] Hyperemesis gravidarum is extreme, persistent nausea and vomiting during pregnancy. It can lead to dehydration, weight loss, and electrolyte imbalances. Morning sickness is mild nausea and vomiting that occurs in early pregnancy. Often symptoms get better after the 20th week of pregnancy but may last the entire pregnancy duration.^[2]

The exact causes of hyperemesis gravidarum are unknown.^[3] Risk factors include the first pregnancy, multiple pregnancy, obesity, prior or family history of HG, trophoblastic disorder, and a history of eating disorders.^{[3][4]} Diagnosis is usually made based on the observed signs and symptoms.^[3]

Treatment includes drinking fluids and a bland diet. With respect to medications pyridoxine or metoclopramide are preferred.^[5] Prochlorperazine, dimenhydrinate, or ondansetron may be used if these are not effective.^{[3][5]} Hospitalization may be required in severe cases. Hyperemesis gravidarum is estimated to affect 0.3–2.0% of pregnant women.^[6]

While vomiting in pregnancy has been described as early as 2,000 BC, the first clear medical description of hyperemesis gravidarum was in 1852 by Antoine Dubois.^[7]

If HG is inadequately treated, anemia,^[11] hyponatremia,^[8] Wernicke's encephalopathy^[8] kidney failure, central pontine myelinolysis, coagulopathy, atrophy, Mallory-Weiss tears,^[8] hypoglycemia, jaundice, malnutrition, pneumomediastinum, rhabdomyolysis, deconditioning, deep vein thrombosis, pulmonary embolism, splenic avulsion, or vasospasms of cerebral arteries are possible consequences. Depression and PTSD^[9] are common secondary complications of HG and emotional support can be beneficial.^[8]

Keywords: HG, hyperemesis gravidarum, vomiting in pregnancy, morning sickness, thiamine deficiency, nausea, vomiting in pregnancy, pregnancy, antiemetics, adverse pregnancy outcomes

INTRODUCTION

Nausea and vomiting with pregnancy is a condition that affects 50 % of the pregnant women. Such condition usually begins between the fourth and seventh week after the last menstrual period in 80 percent of pregnant women.¹⁰

Hyperemesis gravidarum (HG) is a complication of pregnancy characterized by intractable nausea, vomiting, and dehydration and is estimated to

affect 0.5-2.0% of pregnant women.^{2,3} Hyperemesis gravidarum tends to occur in the first trimester of pregnancy.⁴ When hyperemesis gravidarum is severe or inadequately treated, it may result in the following: loss of 5% or more of pre-pregnancy body weight. Dehydration, causing ketosis, metabolic imbalances such as metabolic ketoacidosis or thyrotoxicosis.^{11,12,13}

The International Statistical Classification of Disease and Related Health Problems, Tenth Revision, defines hyperemesis gravidarum (HG) as persistent and

excessive vomiting starting before the end of the 22nd week of gestation and further subdivides the condition into mild and severe, with severe being associated with metabolic disturbances such as carbohydrate depletion, dehydration, or electrolyte imbalance¹⁴ HG is a diagnosis of exclusion, characterized by prolonged and severe nausea and vomiting, dehydration, large ketonuria, and more than 5% body weight loss.

AIMS AND OBJECTIVES OF THE STUDY

- 1) To study the incidence of hyperemesis gravidorum in pregnancy during study period.
- 2) To know the complications of hyperemesis gravidorum in pregnancy during study period.
- 3) To study the maternal and fetal outcome in pregnancy during study period.
- 4) To examine current perspectives and recent developments in hyperemesis gravidarum.

MATERIALS AND METHODS

This study was conducted at MGMGH Trichy for the duration of one year from January 2017-december 2017. It is a referral hospital covering large population in Trichy and also get referral cases from pudukottai, perambalur and karur districts. Despite a high prevalence, studies exploring underlying etiology and treatments are limited.

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 2017-december 2017 were analysed. Women with complaints of excessive vomiting were included in the study. Nonobstetric causes were excluded. From the period of January 2017-december 2017, 20, 502 Antenatal mothers attended our outpatient department. Out of these 307 women were diagnosed as hyperemesis gravidorum, our incidence is 1.5%. 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.

In our study 51% were in the age group between 20-25 years. 21% were in age group between 26-30 years. 17.2% were in the age group between 31-35 years. 9.7% were more than 36 years old. (Table I)

Table 1. Age of Study Population (n=307)

Age in years	n=307	Percentage
20-25 years	157	51.1
26-30 years	67	21.8
31- 35 years	53	17.2
>36 years	30	9.7

In our majority were Primi gravida (52.11%), Gravida 2 were (20.84%), Gravida3 were (16.28%), Gravida4 were (10.74%) – Table II.

Table 2. Parity wise distribution (n=307)

Gravidity	n=307	Percentage
Primi gravida	160	52.11
Gravida2	64	20.84
Gravida3	50	16.28
Gravida4	33	10.74

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When gestational age is taken in to consideration 14 weeks were (13.35%), 15-20 weeks were (majority were between 7 – 10 weeks (51.46%), 11.40%), More than 20 weeks were (6.84%) – less than 6 weeks were (16.93%), More than 11- Table III.

Table 3. *Pregnancy duration in weeks at presentation*

Gestational Age	n=307	Percentage
<6 weeks	52	16.93
7-10 Weeks	158	51.46
>11-14 weeks	41	13.35
15-20 weeks	35	11.40
>20 weeks	21	6.84

When Aetiological factor is taken in to consideration more than 50% (58.3%) were idiopathic. 13.2% were multiple pregnancy, 3.25% were due to vesicular mole. Ectopic pregnancy attributed to 1.62%. History of hyperemesis in previous pregnancy noted in 9.12% of women. Psychological stress was noticed in 8.5% of individuals, Pre-eclampsia was 3.6%, Acute fatty liver of pregnancy was 2.3% - Table IV.

Table 4. *Causes*

Risk factor	N=307	percentage
idiopathic	180	58.63
Multiple pregnancy	40	13.02
Vesicular mole.	10	3.25
Ectopic pregnancy	5	1.62
h/o hyperemesis in previous pregnancy	28	9.12
Psychological stress	26	8.5
Pre-eclampsia	11	3.6
Acute fatty liver of pregnancy.	7	2.3

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

Table 5. *Maternal complications*

	N=307	percentage
NO complications	190	61.9
dehydration	70	22.80
Ketosis	30	9.8
Wernicke encephalopathy	1	0.32
Korsakoff psychosis	2	0.65
Blurring of vision / retinal haemorrhage	1	0.32
Peripheral neuritis	1	0.32
Jaundice	2	0.65
Central pontine myelinolysis	1	0.32
Electrolyte imbalance	5	1.62
Metabolic acidosis	4	1.30
Maternal Death	0	0

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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 2.6% of women underwent Medical termination of pregnancy – Table VI.

Table 6. Fetal Outcome

MTP	8	2.60
Miscarriage	10	3.25
Preterm labour	20	6.51
FGR	25	8.14
Good outcome	244	79.5

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^[18,]. 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.^{19]} In our study 2.6% underwent induced abortion.

CONCLUSIONS

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.

ACKNOWLEDGEMENTS

I gratefully acknowledge and express my sincere thanks to our Dean, K. A. P. V Government Medical College and hospital, Trichy, for allowing me to do this study and utilizing the Institutional facilities. I would also like to thank all the medical and para-medical staffs who have helped me complete this study. A special thanks to all the patients who willingly cooperated and participated in this study. I would like to thank all my colleagues and friends who have been a constant source of encouragement to me. My co-author Dr. Gayathri Devi read and approved the final manuscript.

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Citation: M. Poovathi, Gayathridevi. *Analysis of Pregnant Woman with Hyperemesis Gravidarum in a Tertiary Care Center. Archives of Reproductive Medicine and Sexual Health*. 2018; 1(1): 59-63.

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