

Extreme Weight Loss and Extended Duration of Symptoms Common in Hyperemesis Gravidarum

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Introduction:

Hyperemesis Gravidarum (HG), severe nausea and vomiting of pregnancy, is the most common cause of hospitalization in the first half of pregnancy and the second most common cause of hospitalization during pregnancy overall. HG can be associated with serious maternal and fetal morbidity such as Wernicke's encephalopathy, fetal growth restriction, and even maternal and fetal death.

Objective:

Hyperemesis gravidarum (HG) is commonly defined as extreme nausea and vomiting accompanied by at least a 5% weight loss. Our objective is to analyze the extent of prolonged starvation in pregnancy reported in a large cohort of women with HG and to determine the association of extreme weight loss with respect to symptoms, treatments, and maternal outcome.

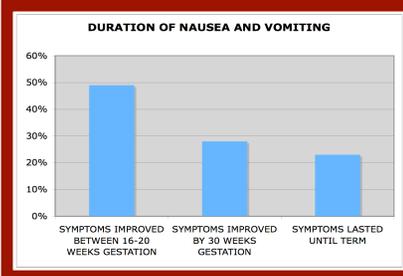
Methods:

Methods: Data regarding weight loss and duration of symptoms were obtained from 2003-2005 from an HG website registry. Women who reported HG during at least one pregnancy greater than 27 weeks were included. Women with weight loss $\geq 15\%$ were compared to women with weight loss $< 15\%$ for a variety of reported symptoms, treatments, and postpartum conditions.

RESULTS:

Women reported their most severe weight loss among all their pregnancies:

- 16% lost $< 5\%$ of pre-pregnancy weight
- 27% lost 5%-10% of pre-pregnancy weight
- 46% lost 10%-20% of pre-pregnancy weight
- 10% lost $> 20\%$ of pre-pregnancy weight



Variable	Women with HG with wt loss $\geq 15\%$ (N=214, 26.13%) vs. Women with HG with wt loss $< 15\%$ (N=605, 73.87%)
Demographics	
Race	
White	167 (78.0%) vs. 531 (87.8%)
Asian	5 (2.3%) vs. 11 (1.8%)
Black	7 (3.3%) vs. 13 (2.2%)
Hispanic	14 (6.5%) vs. 17 (2.8%)
Other	21 (9.8%) vs. 33 (5.5%)
	P = 0.0105
Residence	
USA	165 (77.1%) vs. 491 (81.2%)
AUS	15 (7.0%) vs. 25 (4.1%)
CAN	4 (1.9%) vs. 24 (4.0%)
GBR	22 (10.3%) vs. 35 (5.8%)
OTH	8 (3.7%) vs. 30 (5.0%)
	P = 0.0382

Variable	Women with HG with wt loss $\geq 15\%$ (N=214, 26.13%) vs. Women with HG with wt loss $< 15\%$ (N=605, 73.87%)
Diagnosis/Treatment	
HG Diagnosis	2,907 (1.726-4.894), P < 0.0001
Rec'd inpatient tx	3,499 (2.421-5.058), P < 0.0001
IV fluid use	2,655 (1.757-4.012), P < 0.0001
Zofran use	1,526 (1.106-2.106), P = 0.0101
TPN use	2,726 (1.904-3.904), P < 0.0001
Doctor change	2,217 (1.58-3.109), P < 0.0001

Variable	Women with HG with wt loss $\geq 15\%$ (N=214, 26.13%) vs. Women with HG with wt loss $< 15\%$ (N=605, 73.87%)
Symptoms with HG	
Nausea/vomiting constant throughout pregnancy	1,724 (1.201-2.474), P = 0.0031
Insomnia	1,686 (1.153-2.466), P = 0.0070
Excess saliva	1,559 (1.131-2.149), P = 0.0066
Constipation	1,518 (1.086-2.122), P = 0.0146
Anemia	1,515 (1.086-2.114), P = 0.0145
Gall Bladder Dz in Pg	2,694 (1.531-4.741), P = 0.0006
Hematemesis	1,975 (1.398-2.790), P = 0.0001
Hypotension	2,146 (1.484-3.103), P < 0.0001
Liver dysfunction	4,091 (1.785-9.375), P = 0.0009
Muscle pain	2,349 (1.647-3.352), P < 0.0001
Neurologic changes	3,157 (1.894-5.262), P < 0.0001
Confusion	1,647 (1.022-2.656), P = 0.0405
Mood changes	1,438 (1.032-2.004), P = 0.0320
Renal failure	5,016 (1.452-17.333), P = 0.0108
Retinal hemorrhage	5,23 (2.265-12.097), P = 0.0001

Variable	Women with HG with wt loss $\geq 15\%$ vs. Women with HG with wt loss $< 15\%$
Postpartum (PP) conditions	
Recovery months > 1	131 (61.68%) vs. 316 (52.23%), P = 0.0210
PP digestive	1,636 (1.136-2.357), P = 0.0081
PP food aversions	1,383 (1.000-1.913), P = 0.0502
PP GB dz	1,795 (1.085-2.967), P = 0.0227
PP insomnia	1,588 (1.100-2.291), P = 0.0135
PP muscle pain	1,611 (1.138-2.280), P = 0.0072
PP nausea	1,774 (1.159-2.716), P = 0.0084
PPPTSD	1,540 (1.677-3.848), P < 0.0001

Summary:

- o The majority of cases in the registry lost more than 10% of their body weight due to hyperemesis.
- o Only half of the cases reported improvement between 16-20 weeks, while almost a quarter of cases had symptoms that lasted until term.
- o Extreme weight loss ($\geq 15\%$) was significantly associated with:

1. race and residence outside the United States.
2. change of doctor, more aggressive treatment.
3. persistent symptoms throughout pregnancy.
4. Increased maternal morbidity during pregnancy and persistence of related morbidity after pregnancy.

Conclusion:

Extreme weight loss is reported in a substantial portion of women with HG; the association with persistence of symptoms throughout pregnancy and even postpartum has not been previously described. Mounting literature links starvation in pregnancy to life-long consequences; the burden of HG on the developing fetus and long-term consequences to both mother and child warrant further investigation.