

# Chapter 2

## HYPEREMESIS GRAVIDARUM

Begüm KURT<sup>1</sup>

### INTRODUCTION

Pregnancy-related nausea and vomiting varying prevalence ranging 35- 91% affects a wide ratio of women (1). A little percentage of women will be a serious type of the condition, named hyperemesis gravidarum, and is one of the majority of causes for acceptance to the hospital in the early period of pregnancy (2). Already, there is not universally description agreed for hyperemesis gravidarum. It is most commonly accepted that hyperemesis gravidarum requiring secondary care intervention (3). The etiology of hyperemesis gravidarum has been widely studied, it is complex and multifactorial (4).

Hyperemesis gravidarum have a deep effect on standard of life and can cause important psychological and physical morbidity. Hyperemesis gravidarum, has been established to have important psychological, economic, and social inferences for their families and women (5-7). The impact of caring medical therapy such as intravenous hydration and antiemetics is changeable (8). Hyperemesis gravidarum patients request a large arriving level of care which expands beyond working of physical signs (9).

Women have to face adverse situations depending to poor standart of life, poor self-respect, post-traumatic stress disorder, stress levels, financial and relationship difficulties (9-13).

### CLINICAL DIAGNOSIS

Accordingly the newest “American College of Obstetricians and Gynecologists (ACOG) guidelines on Nausea and Vomiting of pregnancy (2015)” there is no unique description of hyperemesis gravidarum. For identification of hyperemesis gravidarum, usually criteria include permanent vomiting not connected to the other reasons, a measure of hunger (urine analysis shows ketonuria), weight loss, electrolyte aberrances and acid base imbalances. Loss of weight is often calculated

---

<sup>1</sup> Assistant Professor, Sivas Cumhuriyet University Faculty of Medicine, Health Services Research and Application Hospital. begumkurt@cumhuriyet.edu.tr

Women with nausea and vomiting may not continue vitamins containing iron during the first part of pregnancy. We replace them with vitamins low in iron or folic acid.

Due to their safety and impact, pyridoxine and doxylamine combination treatment or pyridoxine monotherapy is recommended as first step in management of nausea and vomiting.

Managing of hyperemesis, H<sub>1</sub> receptor antagonists should be considered.

For the management of vomiting, as an adjuvant therapy metoclopramide may be used safely.

For severe vomiting phenothiazines are effective and safe as a combined therapy.

When other antiemetic compositions have been unsuccessful, ondansetron may be used as a combined treatment for managing of serious nausea and vomiting.

Corticosteroids have possible increased risk of oral clefting, may be avoided during the first trimester and should be constricted to persistent cases.

Researchs of other possible reasons may be admitted, when nausea and vomiting is resistant to early medical therapy.

If the case isn't completely treated, it can sequel in significant problems of health, including Wernicke's encephalopathy, malnourishment, depressive disorders, coagulation, imbalances in electrolytes and adverse outcomes like impaired development, fetuses that are undersized, fetal anomalies and prematurity (32).

## **REFERENCES**

1. Einarson TR, Piwko C, Koren G. Quantifying the global rates of nausea and vomiting of pregnancy: a meta analysis. *J Popul Ther Clin Pharmacol* 2013;20:e171–83.
2. McCarthy FP, Lutomski JE, Greene RA. Hyperemesis gravidarum: current perspectives. *Int J Womens Health* 2014;6:719–25
3. Grooten IJ, Roseboom TJ, Painter RC. Barriers and challenges in hyperemesis gravidarum research. *Nutr Metab Insights* 2015;8s1:NMI.S29523–9.
4. Verberg MFG, Gillott DJ, Al-Fardan N, et al. Hyperemesis gravidarum, a literature review. *Hum Reprod Update* 2005;11:527–39.
5. Festin M. Nausea and vomiting in early pregnancy. *BMJ Clin Evid* 2014;2014. [Epub ahead of print: 19 Mar 2014].
6. Nelson-Piercy C. Treatment of nausea and vomiting in pregnancy. When should it be treated and what can be safely taken? *Drug Saf* 1998;19:155–64.
7. Miller F. Nausea and vomiting in pregnancy: the problem of perception--is it really a disease? *Am J Obstet Gynecol* 2002;186:S182–3
8. Boelig RC, Barton SJ, Saccone G, et al. Interventions for treating hyperemesis gravidarum. *Cochrane Database Syst Rev* 2016;123:CD010607

9. Mitchell-Jones, N., Lawson, K., Bobdiwala, S., Farren, J. A., Tobias, A., Bourne, T., & Bottomley, C. (2020). Association between hyperemesis gravidarum and psychological symptoms, psychosocial outcomes and infant bonding: a two-point prospective case-control multicentre survey study in an inner city setting. *BMJ open*, 10(10), e039715.
10. Poursharif B, Korst LM, Fejzo MS, et al. The psychosocial burden of hyperemesis gravidarum. *J Perinatol* 2008;28:176–81.
11. Attard CL, Kohli MA, Coleman S, et al. The burden of illness of severe nausea and vomiting of pregnancy in the United States. *Am J Obstet Gynecol* 2002;186:S220–7.
12. Ezberci İbrahim, Güven ESG, Ustüner I, et al. Disability and psychiatric symptoms in hyperemesis gravidarum patients. *Arch Gynecol Obstet* 2014;289:55–60.
13. Kim DR, Connolly KR, Cristancho P, et al. Psychiatric consultation of patients with hyperemesis gravidarum. *Arch Womens Ment Health* 2009;12:61–7.
14. Practice Bulletin No. 153: nausea and vomiting of pregnancy. American College of Obstetricians and Gynecologists: *Obstet Gynecol* 2015;126:e12-e24.
15. London V, Grube S, Sherer D, M, Abulafia O: Hyperemesis Gravidarum: A Review of Recent Literature. *Pharmacology* 2017;100:161-171. doi: 10.1159/000477853
16. Lee NM, Saha S: Nausea and vomiting of pregnancy. *Gastroenterol Clin North Am* 2011;40:309-334.
17. Ebrahimi N, Maltepe C, Bournissen FG, Koren G: Nausea and vomiting of pregnancy: using the 24-hour pregnancy-unique quantification of emesis (PUQE-24) scale. *J Obstet Gynaecol Can* 2009;31:803-807.
18. Joan Christodoulou-Smith, Jeffrey I Gold, Roberto Romero, Thomas M. Goodwin, Kimber W. MacGibbon, Patrick M. Mullin & Marlena S. Fejzo (2011) Posttraumatic stress symptoms following pregnancy complicated by hyperemesis gravidarum, *The Journal of Maternal-Fetal & Neonatal Medicine*, 24:11, 1307-1311
19. Malaty HM .Review Epidemiology of *Helicobacter pylori* infection. *Best Pract Res Clin Gastroenterol.* 2007; 21(2):205-14.
20. Cardaropoli S, Rolfo A, Todros T .Review *Helicobacter pylori* and pregnancy-related disorders. *World J Gastroenterol.* 2014 Jan 21; 20(3):654-64.
21. Frigo P, Lang C, Reisenberger K, Kölbl H, Hirschl .Hyperemesis gravidarum associated with *Helicobacter pylori* seropositivity. *AM Obstet Gynecol.* 1998 Apr; 91(4):615-7.
22. Bezircioğlu I, Elveren HB, Baloğlu A, Biçer M .The positivity of *Helicobacter pylori* Stool Antigen in patients with Hyperemesis gravidarum. *J Turk Ger Gynecol Assoc.* 2011; 12(2):71-4.
23. Guven MA, Ertas IE, Coskun A, Ciragil P .Serologic and stool antigen assay of *Helicobacter pylori* infection in hyperemesis gravidarum: which test is useful during early pregnancy? *Taiwan J Obstet Gynecol.* 2011 Mar; 50(1):37-41.
24. Mansour GM, Nashaat EH .Role of *Helicobacter pylori* in the pathogenesis of hyperemesis gravidarum. *Arch Gynecol Obstet.* 2011 Oct; 284(4):843-7.
25. Gisbert JP, de la Morena F, Abairra V .Review Accuracy of monoclonal stool antigen test for the diagnosis of *H. pylori* infection: a systematic review and meta-analysis. *Am J Gastroenterol.* 2006 Aug; Role of *Helicobacter pylori* in the pathogenesis of hyperemesis gravidarum.
26. Hussein, Khulood S. Hyperemesis Gravidarum in First-Trimester Pregnant Saudi Women: Is *Helicobacter pylori* a Risk Factor?. *Frontiers in physiology*,2020 June, 11, 575.
27. M.S. Fejzo, O.V. Sazonova, J.F. Sathirapongsasuti, I.B. Hallgrímsdóttir, 23andMe Research Team, V. Vacic, et al.Placenta and appetite genes GDF15 and IGFBP7 are

- associated with hyperemesis gravidarum *Nat Commun*, 9 (1178) (2018), pp. 1-9
28. Å Vikanes, R. Skjaerven, A.M. Grijibovski, N. Gunnes, S. Vangen, P. Magnus  
Recurrence of hyperemesis gravidarum across generations: population based cohort study. *BMJ*, 340 (2010), p. c2050
  29. Jueckstock JK, Kaestner R, Mylonas I. Managing hyperemesis gravidarum: a multimodal challenge. *BMC Med*. 2010;8:46
  30. Kuscu NK, Koyuncu F. Hyperemesis gravidarum: current concepts and management. *Postgrad Med J*. 2002;78(916):76- 79.
  31. Bailit JL. Hyperemesis gravidarium: Epidemiologic findings from a large cohort. *Am J Obstet Gynecol*. 2005;193(3 Pt 1):811-814.
  32. Dodds L, Fell DB, Joseph KS, Allen VM, Butler B. Outcomes of pregnancies complicated by hyperemesis gravidarum. *Obstet Gynecol*. 2006;107:285-292.
  33. Veenendaal MV, van Abeelen AF, Painter RC, van der Post JA, Roseboom TJ. Consequences of hyperemesis gravidarum for offspring: a systematic review and meta-analysis. *BJOG*. 2011;118(11):1302-1313.
  34. Meinich, T., & Trovik, J. (2020). Early maternal weight gain as a risk factor for SGA in pregnancies with hyperemesis gravidarum: a 15-year hospital cohort study. *BMC pregnancy and childbirth*, 20(1), 255.
  35. Jennings , Lindsey K., Diann M. Krywko 1 In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan. 2020 Apr 27. Hyperemesis Gravidarum
  36. Jednak MA, Shadigian EM, Kim MS, Woods ML, Hooper FG, Owyang C, asler WL. Protein meals reduce nausea and gastric slow wave dysrhythmic activity in first trimester pregnancy. *Am J Physiol*. 1999;277:855-861.
  37. Tan P, Norazilah MJ, Omar SZ: Dextrose saline compared with normal saline rehydration of hyperemesis gravidarum: a randomized controlled trial. *Obstet Gynecol* 2013;121(2 pt 1):291-298.
  38. Spruill SC, Kuller JA: Hyperemesis gravidarum complicated by Wernicke's encephalopathy. *Obstet Gynecol* 2002;99(5 pt 2):875-877.
  39. Nausea and vomiting in pregnancy. Niebyl JR. *N Engl J Med*. 2010;363:1544–1550.