

Clinical efficacy of ginger plus B₆ vitamin in hyperemesis gravidarum: report of two cases

Abstract

A case Hyperemesis gravidarum is defined as severe nausea and vomiting persisting after the 14th week of pregnancy it is often characterized by dehydration, electrolyte imbalance, ketonuria and weight loss of more than 5% of body weight. We report two cases of patients presenting with hyperemesis gravidarum successfully treated with a combined preparation of ginger and B₆ vitamin. Our report show that ginger is an effective non pharmacological option for treating hyperemesis gravidarum with respect to the inherent heterogeneity of the available studies. Family physicians and other medical professionals should be cognizant of the value of ginger as they contemplate pharmacological options for suitable patients with Hyperemesis gravidarum. Further large-scale, multicenter trials should be undertaken to further examine the efficacies of ginger and detail its safety profiles when treating Hyperemesis gravidarum.

Keywords: hyper emesis gravid arum, ginger, vitamin B₆, treatment

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Introduction

Hyperemesis gravidarum is defined as severe nausea and vomiting persisting after the 14th week of pregnancy it is often characterized by dehydration, electrolyte imbalance, ketonuria and weight loss of more than 5% of body weight.¹ More than one-half of pregnant women have nausea and vomiting, which typically begins by the fourth week and disappears by the 16th week of pregnancy. Such condition may be due to the rise in human chorionic gonadotropin concentration and one out of 200 women. The condition progresses to hyperemesis gravidarum, which is characterized by prolonged and severe nausea, vomiting, dehydration and weight loss.² We report two cases of patients presenting with hyper emesis gravidarum successfully treated with a combined preparation of ginger and B₆ vitamin.

Case report

Case report 1

A 36-year-old nulliparous female experienced severe nausea and vomiting from early in her pregnancy. She did not have comorbidities. She was not an active smoker. Her family history for gastrointestinal diseases, motion sickness and neurological diseases was negative. She had taken oral contraceptive for 13 years before the pregnancy, without experiencing any adverse event.

During this pregnancy, the patient experienced extreme nausea and vomiting (N/V) since Week 3 of pregnancy and was officially diagnosed with HG at Week 6 of pregnancy. Her Mother risk Pregnancy unique quantification of Emesis and Nausea (PUQE) scale was 10 on admission (PUQE scale ranges from 3 [no symptoms] to 15 [maximal symptoms]).³ Save decreased total protein and albumin, a complete metabolic panel was within normal limits. Both the neurologist and psychologist excluded neurologic and psychologic problems. Serial albumin, pre-albumin and transferrin levels were

measured as references for maternal nutritional status in combination with measurements of the triceps skin fold upper arm circumference and abdominal circumference. She was taking both proton pump inhibitors (PPI), ondansetron and promethazine since diagnosed with HG, with minimal effectiveness. Furthermore, the patient refused to perform an upper endoscopy and to start steroids as second-line treatment.

At the time of referral (8th week of gestation) we began our patient on a combined preparation of ginger and B₆ vitamin (1 cp containing ginger 1000 mg, gingerols 50 mg, B₆ vitamin 96 mg), 1 cp bi-daily, together with antacids. After seven days, her Mother risk PUQE score was 4. She was instructed to continue the medication, 1 cp bi-daily. The patient subsequently delivered, at gestational age of 39 weeks, a male neonate with a birth body weight of 2,900 kilos and Apgar scores of 7 and 9 at 1 minute and 5 minutes, respectively there were no neonatal complications. The placenta was intact and weighed 340 g with no evidence of fatty infiltration. The mother's nausea and vomiting subsided and her food tolerance improved after delivery. The mother was discharged from our hospital in good condition 3 days after delivery.

Case report 2

A 39-year-old female experienced severe nausea and vomiting from early in her pregnancy. She did not have comorbidities. She was not an active smoker. Her family history for gastrointestinal diseases, motion sickness and neurological diseases was negative. This was her second pregnancy, the first having been uneventful.

During this pregnancy, the patient experienced extreme nausea and vomiting (N/V) since Week 4 of pregnancy and was officially diagnosed with HG at Week 7 of pregnancy. Her Mother risk Pregnancy unique quantification of Emesis and Nausea (PUQE) scale was 10 on admission (PUQE scale ranges from 3 [no symptoms] to

15 [maximal symptoms]).³ A complete metabolic panel was within normal limits. Both the neurologist and psychologist excluded neurologic and psychologic problems. Serial albumin, pre-albumin, and transferrin levels were measured as references for maternal nutritional status in combination with measurements of the triceps skin fold, upper arm circumference, and abdominal circumference. She was taking both proton pump inhibitors (PPI), ondansetron and promethazine since diagnosed with HG, with minimal effectiveness. Also this patient refused to perform an upper endoscopy and to start steroids as second-line treatment.

At the time of referral (9th week of gestation) we began our patient on a combined preparation of ginger and B₆ vitamin, 1 cp bi-daily, together with antacids. After seven days, her Mother risk PUQE score was 4. She was instructed to continue the medication 1 cp bi-daily. No hospital admission was required after such therapy started. The rest of the pregnancy was unremarkable and a 2.5 kg male infant was born following a normal labour at term. The mother's nausea and vomiting subsided, and her food tolerance improved after delivery. The mother was discharged from our hospital in good condition 2 days after delivery.

Discussion

HG is actually poorly understood and treatment strategies remain largely supportive with the aims of relieving symptoms and preventing complications of the disease.² The diagnosis of hyperemesis gravidarum is made on the presence of a history of protracted vomiting, inability to tolerate food or fluids and the presence of ketonuria.² The major question surrounding the therapy of HG is that of safety, with the aims to manage the symptoms of nausea and vomiting, correct dehydration and electrolyte abnormality and prevent complications of the disease.

In this setting, ginger may reduce nausea and vomiting compared with placebo, and pyridoxine (vitamin B₆) may be more effective than placebo at reducing nausea, but we do not know about vomiting and evidence was weak. Therefore, the synergic action of ginger plus vitamin B₆ may be helpful and safe in HG when other treatment fail or when the female patients are not willing to take further medications due to safety issues.

Ginger is rhizome of *Zingiber officinale* and it is widely used as a condiment and therapeutic agent in many countries.^{4,5} In Saudi Arabian traditional medicine, ginger is used as anti-emetic, stomachic, and carminative.^{4,6} In Chinese medicine it is employed in colic and in atonic dyspepsia and used as a stimulant.^{4,7} An experimental study performed on albino rats by Al-Yahya and coworkers, firstly showed the cytoprotective and anti-ulcerogenic effect of the ginger.⁴ Successively, Lien and coworkers performed a study on human volunteers, where they demonstrated that ginger effectively reduces nausea, tachygastric activity, and the release of vasopressin induced by circular section, probably through its aromatic, carminative and possible absorbent properties, which are thought to block gastrointestinal reactions and subsequent nausea feedback.^{8,9} Ginger has been proposed to possess anticholinergic effects at both central and peripheral sites.^{8,10} Furthermore, it has been postulated the possibility that ginger exerts its antiemetic effects by acting on cholinergic-dependent pathways, even if such hypothesis deserves further investigation.⁸ Recently, Thomson & coworkers¹¹ performed a meta-analysis of six studies

with the aim to assess the clinical efficacy of ginger in nausea and vomiting in early pregnancy (NVEP).¹¹ The use of ginger (1 g daily) for at least 4 days was found to be associated with a 5 fold likelihood of improvement in NVEP, thus suggesting that ginger is an effective non-pharmacological treatment for NVEP.¹¹

Our report show that ginger is an effective non-pharmacological option for treating HG with respect to the inherent heterogeneity of the available studies. Family physicians and other medical professionals should be cognizant of the value of ginger as they contemplate pharmacological options for suitable patients with HG. Further large-scale, multicenter trials should be undertaken to further examine the efficacies of ginger and detail its safety profiles when treating HG.

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Conflicts of interest

Authors declare that there is no conflict of interest.

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