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Case Report: Emesis Gravidarum Versus Hyperemesis Gravidarum in Pregnancy

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A B S T R A C T

Background. Emesis gravidarum is a physiological reaction that can occur during pregnancy, mainly due to hormonal factors. However, if nausea and vomiting in pregnancy continues to become more severe, appears throughout the day, causes dehydration and interferes with daily activities, then this is called hyperemesis gravidarum. HG that is not treated properly can cause complications and death in pregnancy.

Case presentation. There were two cases of nausea and vomiting (NVP) in pregnancy. The first one had severe sign and symptoms, while the other case had only mild condition of NVP. The condition of two cases were described to compare between Emesis and Hyperemesis gravidarum, as well as how to treated them.

Conclusion. Nausea and Vomiting can normally occur in early pregnancy due to various factors such as hormonal factors, stress and dietary problems, but if it became worse, and not treated well, then complications and mortality in pregnancy can occur.

Keywords: Emesis, Hyperemesis Gravidarum, Pregnancy, Comparation, Complications

BACKGROUND

Nausea and Vomiting epidemiologically are common with the percentage of 70-80% in pregnancy. Most women with nausea and vomiting of pregnancy (NVP) have symptoms limited to the first trimester or also known as emesis gravidarum (EG). Based on literature, EG often implicated by various metabolism, hormonal and neuromuscular factors. Study by Klebanoff, et al., shows that nausea and vomiting in pregnancy are common in younger women, primigravidas, women with less than 12 years of education, non-smokers, and obese women.[1] Nausea and vomiting of pregnancy (NVP) is also known as Morning Sickness. Morning Sickness is nausea, sometimes accompanied by vomiting, but the frequency of vomiting is not often and disturbing daily activities (Lestari, 2019). According to Indonesia Ministry of Health (2013), emesis gravidarum is a condition of pregnant women in first trimester feeling dizzy, stomachache, fatigue and accompanied by vomiting with a frequency of less than five times a day.[2]

However, in several cases, the nausea and vomiting can be more severe, happen all day (not only in the morning) and if left untreated may lead to significant maternal and fetal morbidity, or called as Hyperemesis gravidarum. Hyperemesis gravidarum is severe vomiting that occurs in early pregnancy until 20 weeks of gestation. Vomiting complaints are sometimes so severe that everything that is eaten is vomited up, which can affect the general condition and interfere with daily work, weight loss, dehydration and presence of acetone in the urine.[3-6]

Nausea and vomiting affect up to 50% of pregnancies, most women are able to maintain fluid and nutritional needs with diet and symptoms will resolve until the end of the first trimester. The etiology is not yet known for certain, but there are several experts who state that it is closely related to endocrine, biochemical and psychological causes.[6,7]Clinically, hyperemesis gravidarum is divided into 3 levels, level I if there is continuous vomiting, intolerance to food and drink arises, weight loss, epigastric pain, the first vomiting produces food, mucus and a little bile, and finally blood comes out. Pulse increases to 100x/minute and systolic blood pressure decreases. Sunken eyes and dry tongue, reduced skin turgor and little but still normal urine. Then level II when the symptoms are more severe, everything that is eaten and drunk is vomited, intense thirst, subfebrile, rapid pulse and > 100 – 140x/minute, systolic blood pressure < 80 mmHg, apathy, pale skin, dirty tongue, sometimes jaundice, acetone, bilirubin in the urine, and rapid weight loss. The final level is level III if there is impaired consciousness (delirium-coma), vomiting decreases or stops, but jaundice, cyanosis, nystagmus, heart problems, bilirubin and proteinuria can occur.[7]

The diagnosis of hyperemesis gravidarum is confirmed by history, physical examination and supporting examinations. Patients usually complain of Amenorrhea or pregnancy in the first trimester accompanied by severe vomiting, disrupting daily work. Vital signs were found to have an increased pulse of 100 x/minute, decreased blood pressure in severe conditions, subfebrile and impaired consciousness. On physical examination, you can find dehydration, pale skin, jaundice, cyanosis, decreased body weight, on the vaginal toucher the uterus is large according to the size of the pregnancy, the consistency is soft, on cervical inspection it is blue.[7]

In supporting examinations, namely ultrasound examinations, the aim is to determine the health condition of the pregnancy and the possibility of multiple pregnancies or hydatidiform mole pregnancies. Laboratory examination can reveal a relative increase in hemoglobin and hematocrit, ketones and proteinuria. Prevention of hyperemesis gravidarum needs to be implemented by providing information about pregnancy and childbirth as a physiological process, providing confidence that nausea and sometimes vomiting are physiological symptoms in early pregnancy and will disappear after 4 months of pregnancy, recommending changing the daily diet with small amounts of food, but more often. Foods that are oily and smell like fat should be avoided. Regular defecation should be regular. [3,4,5]

CASE PRESENTATION

In this article, we present two cases of nausea and vomiting during pregnancy as comparation of emesis and hyperemesis gravidarum. First case is a 24 year old patient that came in Emergency Room complaining of increased nausea and vomiting since one day before entering the hospital. Initially, nausea and vomiting only occurred in the morning and after eating and drinking for the past seven days, but since one day before entering the hospital, the frequency of vomiting was > 10 times per day with a volume of approximately 1/2 -3/4 large glass. The substances that were vomited consisted of previously consumed food and drinks, there was no blood in the vomit. Complaints of nausea and vomiting got worse after eating and drinking, and decreased when resting. The body felt weak and unable to carry out daily activities as usual. The patient' lips felt dry, appetite was also decreased because the patient was afraid of vomiting. Defecation and urination were felt to be decreasing, The patient also complaint heartburn. Since one week before, body weight was felt to be decreasing. The patient had a history of late menstruation and a positive pregnancy test. There was no bleeding from the genitals, and the patient admitted that she had no problems in his home life or at work. On physical examination, it was found that the patient looked weak, blood pressure was 100/70 mmHg, pulse 120 x/minute, breathing frequency was 23 x/minute, temperature 37.4 0C, sunken eyes, dry lips (+). Furthermore, during laboratory examination, Hb was found to be 12.6 gr/dl, leukocytes: 7910/mm3, Ht 35.3%, platelets: 267,000/mm3. Blood ketone examination was found to be negative, and the plano test was positive. In this case, the patient was given Ringer's lactate infusion 20 drops/minute, and continued with Ondansetron injection 3 x 1 ampoule, and Ranitidine injection 2 x 1 ampoule in the Emergency Room. Patients were hospitalized and given food in small amounts but frequently (every 2 hours) during hospitality. Apart from that, patients were also asked to be calm and relaxed because stress could trigger nausea.

Second case is A 28 year old female patient came to the hospital clinic with nausea and vomiting since four days before entering the hospital. The patient experienced nausea and vomiting, especially in the morning and was currently 3 weeks pregnant. This was the first pregnancy. The patient said that she was more often nauseous without vomiting or if she vomited nothing came out. She only vomited in the morning for about two-three times. The patient's appetite was still good. Patient were still able to carry out daily activities. The frequency of urination or defecation did not decrease. The patient came to the doctor because she was worried about her condition and would like to ask whether nausea in early pregnancy is normal. On physical examination, it was found that the patient's blood pressure was 120/80 mmHg, pulse was 83 beats per minute and the patient's acral was warm. The conjunctiva was not anemic, and there was epigastric tenderness. This second patient was given vitamin B6 to reduce nausea during pregnancy, and was asked to pay attention to her diet. Patients were asked to eat small portions but often, not eat too late and reduced stress during pregnancy. After that, the patient was sent home and asked to return to the clinic if the complaint gets worse or did not improve within the next month.

DISCUSSION

Clinically, hyperemesis gravidarum is divided into 3 levels, namely: Level I: Continuous vomiting, intolerance to food and drink, weight loss, epigastric pain, first vomiting comes out with food, mucus and a little bile, and lastly blood comes out. . Pulse increases to 100x/minute and systolic blood pressure decreases. Sunken eyes and dry tongue, reduced skin turgor and little urine but still normal. Level II: Symptoms are more severe, everything you eat and drink is vomited up, intense thirst, subfebrile, rapid pulse and >100 – 140 x/minute, systolic blood pressure <80 mmHg, apathy, pale skin, dirty tongue, sometimes jaundice, acetone, bilirubin in the urine, and rapid weight loss. Level III: disturbance of consciousness (delirium-coma), vomiting decreases or stops, but jaundice, cyanosis, nystagmus may occur , heart problems, bilirubin, and proteinuria.[3,4,5]

The first patient can be classified as hyperemesis gravidarum level II, because the vomiting was getting worse (more than 10 times a day) and disturbing daily activities, the patient also looked weak, sunken eyes, decreased skin turgor and dry lips, rapid pulse rate (more than 100x/minute), and breathing rather fast (23x/minute). However, to confirm this diagnosis, it was necessary to carry out routine blood tests, urine chemistry, electrolytes, blood sugar and ultrasound. Laboratory results were found to be normal and there were no signs of ketoacidosis, indicating that the patient had not yet experienced metabolic disorders due to severe dehydration. In contrast to the second case, the patient did not complain of interference with daily activities and had no signs of dehydration. In accordance with Lestari's research (2019), a patient was said to have emesis gravidarum if the patient's frequency of vomiting is less than 5 times a day or does not interfere with daily activities. [8,9]

Nausea and vomiting during pregnancy are usually caused by changes which occurs in the endocrine system by high fluctuations in hCG levels (Human Chorionic Gonadotrophin). This period of gestational nausea and vomiting is the most common around the first 12-16 weeks at which time the hCG levels are the same as high the level of LH (Lutenizing Hormone) and this is then secreted by trophoblast cells, hCG can be detected in a woman's blood from about three weeks of gestation i.e. one week after fertilization occurs, then becomes a basic fact for some tests in various pregnancies. Complaints of emesis gravidarum can physiologically happen. However, if this complaint is not handled properly then this will turn into something pathological. Nausea and vomiting will also cause body fluid decreases and hemoconcentration occurs which can slow blood circulation so it will affect the growth and development of the fetus. [2]

Management of emesis gravidarum can be done pharmacologically and non-pharmacologically. Pharmacological therapy was done by giving vitamin B6, and if it is necessary the mother can be given Antiemetic Antihistamine. As non-pharmacology therapy, the patient can be suggested to drink or smell concoctions herbs such as ginger to reduce nausea.[2] Besides, patient was asked to organize the pregnancy's diet by eating food more frequently (every two hours) but with small portion. In the second case, the patient was given vitamin B6 to reduce nausea, and was educated about the diet.[9,10]

On the other hand, Hyperemesis gravidarum, If not treated immediately, it will be resulted on the mother became dehydrated and lost her energy. The complications can be fatal which can cause nervous disorders in the fetus and also liver problem in pregnant women. The worst case scenario possible can be resulted in death for both the mother and the fetus. Management of hyperemesis gravidarum is divided into rehydration and electrolyte correction, isolation, nutritional therapy, drug therapy, and psychotherapy. Fluid therapy is carried out to treat dehydration by administering rehydration fluids. Generally, lost water and electrolytes are replaced with isotonic fluids, for example Ringer's Lactate, Ringer's acetate or normal saline. The fluid used to improve the first patient's condition was crystalloid, namely Ringer's Lactate, with the consideration that in the patient there was a decrease in intravascular fluid volume and a tendency for intracellular and interstitial fluid deficits. Resuscitation is said to be adequate if there are parameters such as an average arterial blood pressure of 90 mmHg or less, pulse heart rate more than 100 beats per minute, warm extremities with good capillary refill, good central nervous system, and good urine production 0.5-1 ml. Patient will also be isolated in a quiet room with limited visitors/guests, only doctors and nurses could go in and out of the room until vomiting stops and the patient would like to eat. The doctors noted the fluids that go in and out and did not give food or drink to the patient for 24 hours. Sometimes with isolation alone the symptoms will decrease or disappear without treatment.[9,10]

During treatment, a control list of fluids in and out of the patient was made, such as urine that needed to be checked daily, for levels of protein, acetone, chloride and bilirubin. Temperature and pulse were checked every 4 hours and blood pressure for three times a day. Next, the patient was checked for hematocrit at the start and thereafter as needed. If the patient does not vomit for 24 hours and the general condition improves, the patient will be given drink or liquid food, and gradually the drink can be supplemented with non-liquid food. Termination of pregnancy in Hyperemesis gravidarum is carried out if the general condition worsens by considering several aspects including medical and psychiatric examination, clinical manifestations in the form of psychiatric disorders such as delirium, apathy, somnolence to coma, mental disorder Wernick's encephalopathy. As well as visual disturbances such as retinal hemorrhage, visual impairment, or Physiological disorders such as liver problem in the form of jaundice, kidneys in the form of anuria, heart and blood vessels in the form of increased pulse and decreased blood pressure.[9,10]

Conclusion

Emesis gravidarum can normally occur in early pregnancy due to various factors such as hormonal factors, stress and dietary problems. However, if the nausea and vomiting becomes more severe, causes dehydration and disturbing daily activities, then this is a disease called hyperemesis gravidarum in pregnancy. In cases of hyperemesis gravidarum that are not treated quickly and well, complications such as defects in the baby or death of the mother and baby can occur.

Conflict of Interest

No potential conflict of interest relevant to this article was reported

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