Gastroesophageal reflux disease and pregnancy

Y. Y. Plotnikova[1], L. G. Vologzhanina[2], Y. N. Baranova[1]
[1]*Kemerovo State Medical University, Kemerovo, Russia*
[2]*Perm State Medical University n. a. acad. E. A. Vagner, Perm, Russia*

Key words: gastroesophageal reflux disease, pregnancy, antacids, prokinetics, H_2-blockers, proton pump inhibitors

Gastroesophageal reflux disease (GERD) during pregnancy is common. During the entire pregnancy, heartburn and dysphagia are experienced by 30-50% of women, and in some population groups its frequency is close to 80%. According to SG Burkov, when examining 55 pregnant women found that heartburn disturbed 65.4% of them, and its prevalence in the first trimester was 7.2%, in II - 18.2% and in III - 40%. Differences in the frequency of heartburn among primiparous and multiparous women have been identified [1, 7]. Changes in the structure and function of normal physiological barriers for reflux of gastric contents into the esophagus explain the high incidence of GERD among pregnant women. The effect of pregnancy on the gastrointestinal tract (GIT) is reduced to a decrease in intestinal motility due to a decrease in the sensitivity of the chemoreceptors of the intestine to serotonin, histamine, a decrease in the tone of the smooth muscles of the intestine against the background of the action of hormones of gestation. The hormones of gestation in most cases disturb the microbial equilibrium of the biocenoses of all the mucous membranes of a pregnant woman. In the throat and intestines, a tendency to excessive bacterial growth, the development of acidic and fermental dyspepsia develops. In addition, intra-abdominal pressure is increasing, dysfunction of the colon and rectum is formed against the background of the pressure of the growing uterus, as well as a slowing of blood flow in the portal and inferior vena cava and the fullness of hemorrhoidal veins. Activated proinflammatory textile mechanisms which can exacerbate preexisting gastrointestinal disease (GERD, functional dyspepsia, gastritis, pancreatitis, cholecystitis, anorectal pathologies, et al.) [2, 5].

The main symptom of GERD during pregnancy is heartburn, which usually develops after eating, especially after consuming abundant, fatty, fried and spicy food. Some women, in order to avoid heartburn, prefer to eat once a day, which can lead to a significant loss of body weight. The heartburn lasts from several minutes to hours, repeats repeatedly several times a day, amplifying in a horizontal position, when turning from one side to the other. Some pregnant women pay attention to the fact that heartburn worries more on the left side. In addition, the torso of the body forward, for example, to put on or fasten the shoes (a symptom of the "lace"), provoke its appearance.

In a number of cases, in order to relieve heartburn that occurs during the night during sleep, the patient has to get up, walk around the room for a while, drink water. Some women have to sleep sitting in a chair. The feeling of heartburn is accompanied by a painful feeling of melancholy, a depressed mood. Against the backdrop of prolonged heartburn, there may be pain behind the sternum, solitary phlegm, belching of the air. Often the pain radiates to the nape, interlopar space, increases during or immediately after eating. Sometimes salivary discharge increases in patients with heartburn. Heartburn often begins during pregnancy and ends soon after delivery. However, we must remember that often heartburn is the result of aggravation had previously GERD.

Diagnosis of GERD during pregnancy is established on the basis of complaints, data of anamnesis, and also, if necessary, the results of instrumental examination. X-ray examination due to possible damaging effects on the fetus in pregnant women is not applied, pH-metry can be used, but the need for its use is questionable.

Esophagogastroduodenoscopy (EGDS) is the method of choice for diagnosis of GERD, especially its complications. Although the method is burdensome for the mother, but its safety for the fetus, high information content, the ability to accurately diagnose and differential diagnosis of diseases, put him on the 1 st place among the instrumental methods of diagnosing

the pathology of the upper digestive tract in pregnant women. T yazhelye GERD complications in pregnancy are rare enough, so it is not necessary to carry out endoscopy to all pregnant women with heartburn [8]. The group of patients who need EHDS include women with severe complaints (heartburn, anxiety several times a day, poorly amenable to cupping with antacids), with the previous severe course of GERD (grade III-IV according to the Los Angeles classification), indicating in Anamnesis on the development of complications of GERD (ulcer of the esophagus, bleeding from the esophagus, esophagus Barrett).

Optimum treatment of heartburn in pregnant women requires special attention and knowledge, since the safety of the mother, the fetus and the newborn should be the focus of attention. The basis of therapeutic measures for GERD (heartburn) is the maximum strengthening of the factors of protection against reflux and the weakening of the aggressive acid-peptic factor, which must begin with the observance of recommendations for changing the lifestyle and diet.

A woman should avoid those provisions that contribute to the occurrence of heartburn. In the absence of contraindications - a dream with a raised head end of the bed (it should be raised at an angle of 15 °, one "high" pillows is not enough). Extremely long stay in an inclined position, forced position in bed with a lowered headboard, performance of gymnastic exercises connected with tension of the abdominal press, wearing tight belts and corsets are highly undesirable. It is necessary to avoid constipation if it develops, because any straining leads to an increase in intra-abdominal pressure, throwing acidic gastric contents into the esophagus, and the appearance of heartburn.

Showing fractional meals (5-7 times a day) in small portions, a woman should avoid overeating. In the diet it is desirable to include products with an alkaline reaction ("food antacids"): milk, cream, sour cream, cottage cheese, steam protein omelets, boiled meat, fish, poultry, butter and vegetable oil, white bread. Dishes and side dishes from vegetables should be eaten in a boiled or grated kind. Apples should be baked. Not recommended fatty fried foods from meat, poultry, Fish, smoked products, spicy sauces and condiments, acidic fruit juices and compotes, vegetables containing coarse fiber (white cabbage, radish, radish, onion, garlic), mushrooms, black bread, chocolate, fizzy and fizzy drinks, hot tea, black coffee. After eating, do not go to bed - it's better to sit or even stand: it helps to more quickly evacuate food from the stomach.

With a minor heartburn these measures can be quite enough. In cases of severe heartburn, the appearance of other symptoms of GERD, it is necessary to discuss with the patient all the positive and possible negative aspects of drug therapy. In accordance with the standards of treatment of GERD used antacids, prokinetics, $_{H2}$ blockers and proton pump inhibitors (PPIs). But not all drugs of these groups can be prescribed to pregnant women. In a small number of articles written in Russian on the problem of GERD in pregnant women, recommendations are given on the use of drugs by the US Food and Drug Administration (FDA). The safety of the use of medicines in pregnant women according to the graduation of the FDA:

- Risk Category A: No risk.
- Risk Category B: («best» - The best) - There is no evidence of risk.
- Risk Category C: («caution» - caution) - Risk is not excluded.
- Risk Category D: («dangerous» - Dangerous) - The risk is proved.
- Risk Category X: contraindicated in pregnancy.

At the same time, we treat our patients in Russia, where not all drugs corresponding to the FDA grades A, B and C are allowed for use in pregnant women. Doctors who are engaged in the treatment of pregnant women, it is necessary to know very well the instructions of the prescribed drugs, where the indications and contraindications are clearly prescribed, especially with regard to pregnancy.

Most often pregnant women with GERD appoint antacids. Antacid drugs are divided into absorbable (systemic, soluble - magnesium oxide, calcium carbonate, sodium bicarbonate) and nonabsorbable (non-systemic, insoluble - magnesium carbonate basic, aluminum phosphate,

aluminum hydroxide). Analysis of individual antacids (aluminum hydroxide, sodium bicarbonate, magnesium trisilicate and calcium carbonate) did not reveal a connection with an increase in congenital anomalies. A recent European Consensus recommended antacid magnesium and calcium basis for pregnant women, t. K. They have a high safety profile [4]. Suction calcium based antacid have the further advantage for the prevention of hypertension and pre-eclampsia of pregnancy, and the addition of magnesium sulphate reduces the risk of eclampsia by 50% compared to placebo, as well as the risk of maternal deaths, no serious short-term side effects [6]. It should avoid the use of sodium bicarbonate, because it causes metabolic alkalosis and fluid overload. Antacids should be taken at different times with iron preparations, because iron is absorbed with preserved gastric secretion. According to the instructions of the drugs, in Russia, during pregnancy, the following antacids can be administered under the supervision of a doctor with non-prolonged courses: Calcium additive, Gastal, Gaviscon, Gelusil, Maalox, Rennie, Rutatsid, Fosfolugel. You can not nominate: Almagel, Gastracid, Gestid, Relzer. Bismuth preparations are forbidden for pregnant women in Russia unlike the USA. Lactation soaked antacids secreted in mother's milk, which could adversely affect the child's development, and nonabsorbable antacids do not accumulate in breast milk and, therefore, are considered safe. Pepsan-R, which includes dimethicone and guaiazulene, has good efficacy for dyspeptic disorders and uncomplicated GERD, it is approved for use by pregnant and lactating women.

Prokinetics of metoclopramide, an antidopaminergic drug, increases the pressure of the lower esophageal sphincter, reducing acid reflux, and accelerates the emptying of the stomach. Its main use during pregnancy is the treatment of nausea and vomiting. Category assignment m etoklopramida risk in pregnancy according to the FDA gradation - B. The use of domperidone is not included in the FDA's recommendations for pregnant women in Russia, according to the instructions is possible if the expected effect of therapy outweighs the potential risk to the fetus and child. When lactation is permitted, taking metoclopramide "with caution", as it penetrates into breast milk.

$_{H2}$ blockers are rarely used for the treatment of GERD in the general population, but it is the most commonly prescribed group of drugs used to treat heartburn in pregnant women who have recommendations for changing lifestyles and antacids do not bring the desired result. All four drug groups (cimetidine, ranitidine, famotidine and nizatidine) were classified by the FDA during pregnancy as a risk category B. In the Russian instructions for the use of these drugs, only cimetidine and ranitidine are allowed, with the wording: use in pregnancy is possible only if the expected The effect of therapy exceeds the potential risk to the fetus. Famotidine and nizatidine in Russia are contraindicated for pregnant women. $_{H2}$ blockers are not recommended during lactation.

IPP is the most effective class of drugs used to treat GERD. Information on the safety of the use of this group of therapeutic agents during pregnancy is very limited. Omeprazole and lansoprazole are according to FDA gradation risk category C, and rabeprazole, pantoprazole and esomeprazole risk category in [3]. In Russia, according to the instructions, omeprazole during pregnancy is contraindicated; Lansoprazole - contraindicated in the first trimester, in the II and III trimesters is possible if the expected benefit of therapy exceeds the potential risk to the fetus; Pantoprazole - application is possible only on strict indications, when the benefit to the mother exceeds the potential risk to the fetus; Rabeprazole is contraindicated in pregnancy;esomeprazole - PPLICATION possible when the expected benefit of treatment to the mother outweighs the potential risk to the fetus. The lactation period is a contraindication for the use of all IPP groups.

Surgical treatment of GERD during pregnancy is not carried out.

Thus, during pregnancy and lactation for the treatment of GERD new drugs are better to prefer drugs that have been well studied for many years. Doctors working with this category of patients need to know well the Russian instructions for prescribing drugs, which often do not comply with foreign recommendations. Only strict control of the doctor for taking pregnant medications, prudent therapy will reduce the risk of possible undesirable effects to a minimum.

References:

1. Бурков С. Г. Гастроэзофагеальная рефлюксная болезнь у женщин в период беременности / С. Г. Бурков // Гинекология. — 2001. — Т. 6, № 5. — С.12–15.
2. Елохина Т. Б. Гастроэзофагеальная рефлюксная болезнь при беременности / Т. Б. Елохина, В. Л. Тютюнник // Лечащий врач. — 2009. — № 4. — С. 1–4.
3. Briggs G. G. Drugs in pregnancy and lactation : a reference guide to fetal and neonatal risk / G. G. Briggs, R. Y. Freeman, S. J. Yaffe. — Baltimore : William and Wilkins, 2002.
4. Contemporary understanding and management of reflux and constipation in the general population and pregnancy : a consensus meeting / G. N. Tytgat, R. C. Heading, S. Muller-Lissner [et al.] // Aliment. Pharmacol. Ther. — 2003. — Vol. 18. — P. 291–301.
5. Efficacy and safety of esomeprazole compared with omeprazole in GERD patients with erosive esophagitis : a randomized controlled trial / J. E. Richter, P. J. Kahrilas, J. Johanson [et al.] // Am. J. Gastroenterol. — 2001. — Vol. 96. — P. 656–665.
6. An open-label multi-center study to assess the safety and efficacy of a novel reflux supplement (Gaviscon advance) in the treatment of heartburn of pregnancy / S. W. Lindow, P. Regnell, J. Sykes, S. Little // Int. J. Clin. Pract. — 2003. — Vol. 57. — P. 175–179.
7. Prescription of drugs during pregnancy in France / I. Lacroix, C. Damase-Michel, M. Lapeyre-Mestre, J. L. Montastruc // Lancet. — 2000. — Vol. 356, No 18. — P. 1735–1736.
8. Richter J. E. Gastroesophageal reflux disease during pregnancy / J. E. Richter // Gastroenterology Clinics in North America. — 2003. — Vol. 32, No 1. — P. 235–261.

Gastroesophageal reflux disease and pregnancy

Y. Y. Plotnikova[1], L. G. Vologzhanina[2], Y. N. Baranova[1]

[1]*Kemerovo State Medical University, Kemerovo, Russia*

[2]*Perm State Medical University n. a. acad. E. A. Vagner, Perm, Russia*

Key words: gastroesophageal reflux disease, pregnancy, antacids, prokinetics, H_2-blockers, proton pump inhibitors

This article describes the features of the course and diagnostics of gastroesophageal reflux disease in pregnant women, which is very common in this group of patients. Acceptable techniques of diagnostics of the disease are offered. Methods of non-pharmacological prevention and correction of heartburn are discussed as well. We also consider in detail the groups of drugs that are on the list of drugs allowed for pregnant women according to the FDA graduation. An analysis of drugs allowed for this group of patients that are present at the domestic market is provided.