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Clinical manifestations of gastro-esophageal reflux disease in pregnancy

Gastro-esophageal reflux disease is becoming an increasingly important diagnostic and therapeutic problem affecting the quality of life of patients. According to numerous reports and studies, an epidemic increase in its incidence is observed (3, 5). Some authors analysing the incidence of the above mentioned disease in highly developed countries expect that gastro-esophageal reflux disease is going to be one of the most common diseases of the 21_{st} century requiring vast health care funds (3).

Gastro-esophageal reflux disease is defined as the presence of symptoms caused by the stomach contents reflux into the esophagus and/or the presence of injuries to the esophageal mucosa (3, 5, 7). It is the syndrome of various symptomatology. Beside classic esophageal symptoms, it presents numerous extra-esophageal symptoms called clinical masks (4, 10, 13). These include: laryngologic symptoms such as: hoarseness, expectoration, frequent pharyngitis without infection; dental symptoms: lips burning, tongue burning, gingivalgia and increased dental caries. Some other masks of the disease may be: pulmonary symptoms: intensified asthmatic symptoms, chronic bronchitis, chronic pneumonia with the stomach contents aspiration; Cardio-vascular symptoms: symptoms of retrosternal pain, heart throbbing and palpitations, fainting.

The diagnosis of the reflux disease is based on the presence of symptoms, heartburn in particular, at least three times a week for more than three months a year. Pregnancy is the condition predisposing to reflux disease, which is connected with decreased strength of esophageal sphincter contraction caused by increased progesterone production. A marked increase in abdominal pressure is also of importance, which results from the pressure of the growing uterus and shortening of the subphrenic esophagus (7, 10,11, 12).

The objective of the study was to evaluate the incidence of classic and extra-esophageal symptoms of gastro-esophageal reflux disease in pregnancy.

MATERIAL AND METHODS

In the study a questionnaire consisting of two parts was used. The first part included 8 questions and was to confirm or exclude reflux disease in a patient. A positive result qualified the patient for further studies. The second part consisting of 15 questions was to determine the symptoms, severity, features of intensification and possible extraesophageal symptomatology.

The study encompassed 178 patients hospitalized in the Clinic of Pathology of Pregnancy, Medical University of Lublin between October and March 2003. The questionnaires were filled by patients in the presence of one of their authors.

The values of the parameters analysed were characterized by number and percentage: the chi-square test was used to detect differences and correlations, 5% deduction error was accepted. Statistical analyses were conducted using STATISTICA V.6.0 software (StatSoft, Poland).

RESULTS AND DISCUSSION

On the basis of the first part of the questionnaire 50 patients with detected symptoms of gastro-esophageal reflux disease were qualified for the study, which constitutes 28% of the total number of the hospitalized women (Fig. 1).

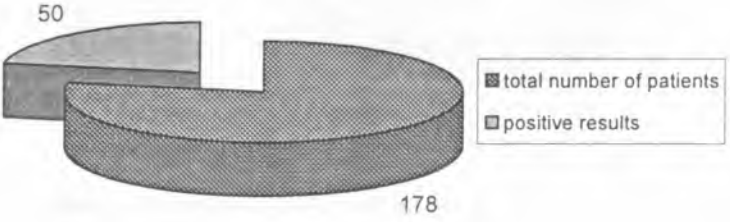

Fig.1. Symptoms of reflux in pregnant women

Further analysis showed that amongst 50 hospitalized patients due to endangered pregnancy the symptoms occurred: once a week in 12%, 2–3 times a week in 56%, every day in 32% (Fig. 2).

According to the pregnancy stage, it was observed that in trimester I 70% of patients suffered from heartburn 2–3 times a week, in trimester II 100% – 2–3 times a week and in trimester III – 20% 2–3 times a week and 80% every day, P=0.00001 (Fig. 2).

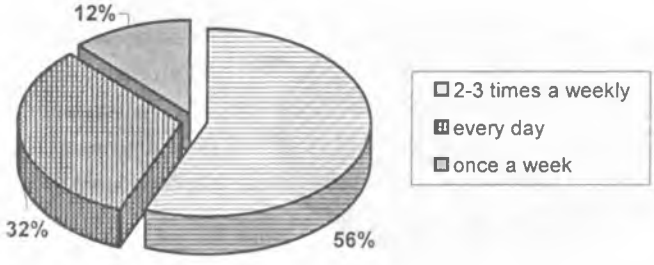

Fig. 2. Weakly frequency of heartburn

The symptoms lasting less than 3 months were observed in 46% of patients; in 14% – 3 months, in 40% – longer (Fig. 3). Additionally, it was demonstrated that in trimester I 100% of patients suffered from heartburn for less than 3 months while in trimester III 100% – for more than 3 months, $P < 0.00001$ (Fig. 3).

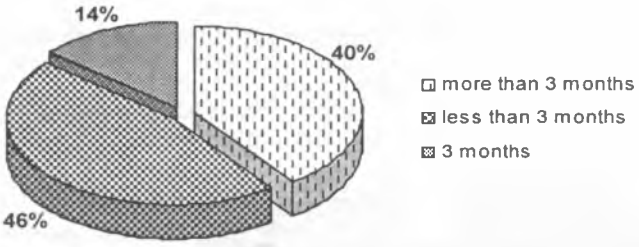

Fig. 3. Annual frequency of heartburn

Moreover, it was observed that the frequencies of particular reflux symptoms were strictly related to the stage of pregnancy. On the basis of the second questionnaire partial intensification of symptoms was observed in the successive trimesters. The majority of women reported intensified symptoms related to reflux disease in trimester I and III – 40%. In trimester II only 20% suffered from increased frequency of symptoms (Fig. 4). The main nocturnal complaint of trimester I is found to be cough, present in 90% of patients; in the II trimester no complaints were present. $P<0.00001$. In trimester I 100% had pain in the epigastric fossa while in trimesters II and III 100% had no such symptoms, $P<0.0001$. Thoracic pain did not occur in trimester I; in trimester II it occurred in 10% of women during the day and in trimester III in 85% during the day and in 15% at night, $P<0.00001$. Regurgitations were present in all the patients in trimesters I and II while in trimester III only in 15% of cases, $P<0.00001$. Dysphagia occurred only in trimester III in 25% of women, $P=0.04018$ (Fig. 4).

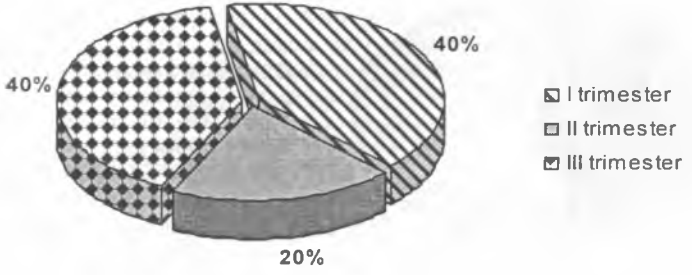

Fig. 4. Intensification of symptoms in particular trimesters of pregnancy

Moreover, the nature of symptoms was analysed. Higher incidence of classic-esophageal symptoms of reflux disease was observed. It was demonstrated that acid eructation – one of the symptoms most commonly reported by women – occurred in 66% of them. In the group of extra-esophageal manifestations, dental and laryngologic symptoms were clearly dominant, as clinical masks of reflux disease. The dental symptoms, such as lips burning, gingivalgia, tongue burning and intensified dental caries, were noted in 60% of the responders. The distribution of particular dental symptoms is presented in Figure 5. Additionally it was observed that in trimester I lips burning was present in 45%, dental caries in 35%, tongue burning in 20% of patients. In trimester II 80% suffered from gingivalgia, 20% from lip burning. In trimester III gingivalgia occured in 25% and 75% of patients did not complain of any symptoms, $P<0.00001$ (Fig. 5).

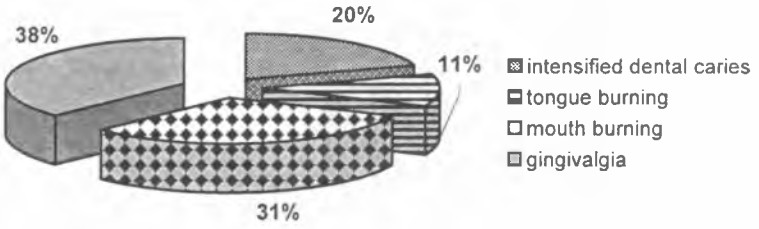

Fig. 5. Dental symptoms

The second commonly reported group of complaints were laryngologic symptoms. In the group examined, 52% of women suffered from the following symptoms: hoarseness, expectoration, sore throat without infection. Figure 6 presents the distribution of laryngologic symptoms. According to the trimesters, hoarseness and expectoration occurred in 100% in trimester I while in trimester II one 20% suffered from sore throat without infection and 80% did not have any laryngologic symptoms (Fig. 6).

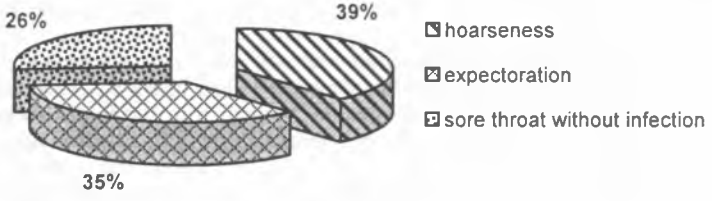

Fig. 6. Laryngologic symptoms

It should be stressed that amongst other symptoms thoracic pain was reported by 42% of pregnant women and dysphagia by 10%. In the group of nocturnal symptoms, cough fits and exacerbated asthma, belonging to masks of broncho-pulmonary reflux disease, were present in 36% and 8% of patients, respectively. Two per cent of them complained of regurgitation. The distribution of nocturnal symptoms is presented in (Fig. 7). Distribution and incidence of esophageal and extraesophageal symptoms is presented in (Fig. 8).

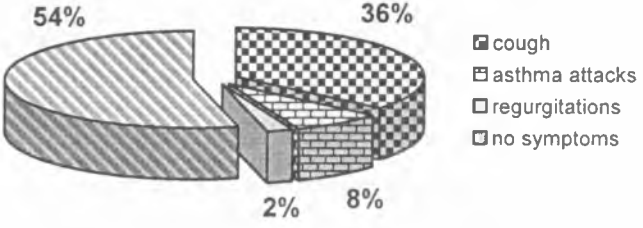

Fig. 7. Nocturnal symptoms

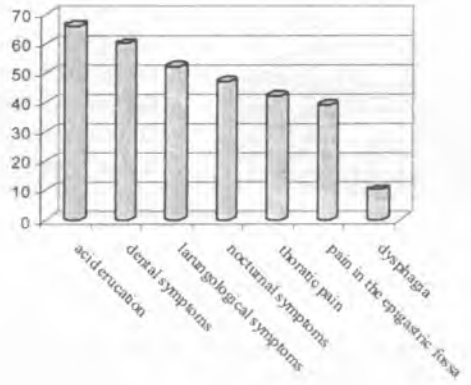

Fig. 8. Distribution and incidence of esophageal and extraesophageal symptoms

According to some authors, gastro-esophageal reflux disease is a quite common problem (2, 3). Our study revealed that classic symptoms of this disease in pregnancy occurred significantly more often affecting 28% of pregnant women. According to Muszyński, 5% of the general population is affected and esophageal reflux symptoms occur every day in 7%, periodically in 20–40% (2). In pregnant patients the symptoms occur every day in 32%, once a week in 12%, 2–3 times a week in 56% of cases.

Ho, Kang, Viegas demonstrate that the majority of such complaints as heartburn, regurgitation etc. developed in trimester I and subsided in trimester II (14). In our study, the main reflux symptoms were reported by 40% of patients in trimester I while in trimester II, in 20% of them the symptoms soothed. In trimester III 40% of responders complained of symptoms again. Richter demonstrates that the cause of reflux disease is diverse, however the main role is played by female sex hormones, progesterone, in particular (6), which in trimester I decrease esophageal sphincter tone (6). In trimester III the main effects are likely to be anatomical changes related to increased uterus .

Some authors demonstrate that reflux may account for 10–50% of pain sensations defined as non-cardiac anginal-like pain (4, 7, 8). Our study shows that thoracic pain is also a common symptom in pregnant women with reflux disease.

Wasilewska et al. examined the effects of reflux on dental caries showing that the process is markedly increased in pregnant women (11). These findings correlate with our results which reveal that dental symptoms are one of the most frequent ones – almost 60% and that intensified dental caries was observed in 20% of women with dental mask of reflux disease.

Małecka-Panas reports that reflux is a frequent cause of chronic, treatment-resistant hoarseness (10% of general population with chronic symptoms) (4). Our results reveal that hoarseness occurs in almost 39% of the women with extraesophageal reflux disease symptoms. As mentioned before, reflux disease in pregnancy is more common than reflux disease, therefore, the frequency of intensified symptoms is higher (11). The above-mentioned authors demonstrate that a commonly reported nocturnal symptom cough is 10%–40% (4, 7, 9, 14). Cough is also a frequent nocturnal symptom in pregnant women – in 35% of patients with reflux disease-related nocturnal symptoms.

CONCLUSIONS

1. The symptoms of gastro-esophageal reflux disease are more frequent in pregnant women than in general population.
2. In pregnant patients, classic esophageal symptoms are dominant.

3. Additionally, increased incidence of dental and laryngologic symptoms was observed.

4. Intensification of reflux disease symptoms was particularly visible in trimester I and III of pregnancy.

REFERENCES

1. Błaszczuk J., Strutyńska-Karpińska M.: Choroba refluksowa przełyku (GERD). Pol. Med. Rodz., 5, (1), 47, 2003.
2. Ho K.Y. et al.: Symptomatic gastro-oesophageal reflux in pregnancy: a prospective study among Singaporean women. J. Gastroenterol. Hepatol.,13, 10, 1020, 1998.
3. Kordecki H.: Choroba refleksowa – problem XXI wieku? Med. Rodz., 5, 15, 182, 2001.
4. Małecka-Panas E.: Pozaprzełykowe objawy choroby refleksowej. Prob. Lek., 40, 6, 329, 2001.
5. Muszyński J.: Refluks żołądkowo przełykowy. Diabel. i Gastroenterol., 4, 41, 2001.
6. Richter JE.: Gastroesophageal reflux disease during pregnancy. Gastroenterol. Clin. North. Am., 32, 1, 235, 2003.
7. Romanowski M. et al.: Objawy pozaprzełykowe choroby refluksowej przełyku. Pol. Arch. Med. Wewn. CVI., 4, 10, 973, 2003.
8. Romanowski M. et al.: Objawy ze strony układu sercowo-naczyniowego w przebiegu choroby refluksowej przełyku. Lek. Wojsk., 76, 3, 184, 2000.
9. Romanowski M. et al.: Astama oskrzelowa a choroba refluksowa przełyku. Probl. Lek., 41, 3, 166, 2002.
10. Schabowski J.: Choroba refluksowa przełyku. Med. Ogól., 7, XXXVI, 3-4, 221, 2001.
11. Wasilewska A.M. et al.: Wystepowanie próchnicy oraz poziom higieny jamy ustnej u kobiet w ciąży cierpiących na refleks. Czas. Stomat., LIII, 4, 215, 2000.
12. Waśko-Czopnik D., Paradowski L.: Influence of body position on intraesophageal pH in patients with gastroesophageal reflux disease (GERD). Gastroenterol. Pol., 10, 4, 289, 2003.
13. Wierzbicka M. et al.: Choroba refluksowa przełyku (GERD) objawiająca się maską laryngologiczną-epidemiologia, objawy i diagnostyka. Doniesienia wstępne. Otolaryngol. Pol., LVII/2, 191, 2003.
14. Young M.A., Reynolds J.C.: Respiratory complications of gastrointestinal diseases. Gastroenterol Clin. North. Am., 27, 721, 1998.

SUMMARY

Gastro-esophageal reflux disease is becoming an increasingly important diagnostic and therapeutic problem affecting the quality of life of patients. According to numerous reports and studies, an epidemic increase in its incidence is observed. Gastro-esophageal reflux disease is defined as the presence of symptoms caused by the stomach contents reflux into the esophagus and/or the presence of injuries to the esophageal mucosa. The objective of the study was to evaluate the incidence of classic and extra-esophageal symptoms of gastro–esophageal reflux disease in pregnancy. In the study a questionnaire consisting of two parts was used. The first part included 8 questions and was to confirm or exclude reflux disease in a patient. A positive result qualified the patient for further studies. The second part consisting of 15 questions was to determine the symptoms, severity, features of intensification and possible extraesophageal symptomatology. The study encompassed 178 patients hospitalized in the Clinic of Pathology of Pregnancy, Medical University of Lublin. The questionnaires were filled by patients in the presence of one of their authors. The values of the analyzed parameters were characterized statistically and shown graphically. It was discovered that: the symptoms of gastro-esophageal reflux disease are more frequent in pregnant women than in general population. In pregnant patients, classic esophageal symptoms are dominant. Additionally, increased incidence of dental

and laryngologic symptoms was observed. Intensification of reflux disease symptoms was particularly visible in trimester I and III of pregnancy.

Kliniczna manifestacja choroby refluksowej przełyku u ciężarnych

Choroba refluksowa staje się coraz poważniejszym problemem diagnostycznym oraz terapeutycznym, mającym negatywny wpływ na jakość życia cierpiących pacjentów. Jak donoszą liczne publikacje i badania naukowe, mamy do czynienia wręcz z epidemicznym wzrostem zachorowań. Mianem choroby refluksowej określa się występowanie dolegliwości na skutek zarzucania treści żołądkowej do przełyku lub/i obecność uszkodzeń błony śluzowej przełyku. Celem pracy była ocena częstości występowania klasycznych i pozaprzełykowych objawów choroby refluksowej u kobiet w ciąży. Posłużono się ankietą składającą się z dwóch części. Pierwsza składała się z ośmiu pytań i miała na celu stwierdzenie lub wykluczenie choroby refluksowej u badanej. Pozytywny wynik kwalifikował pacjentkę do dalszych badań. Druga część ankiety, składająca się z 15 pytań, miała na celu ustalenie objawów, stopnia, cech nasilenia i ewentualnej symptomatologii pozaprzełykowej. Badaniem objęto 178 pacjentek hospitalizowanych w Klinice Patologii Ciąży AM w Lublinie. Każdorazowo ankieta była wypełniana przez pacjentki w obecności jednego z jej autorów. Wartości analizowanych parametrów opracowano statystycznie i przedstawiono graficznie. W ciąży częściej stwierdza się objawy choroby refluksowej w stosunku do populacji ogólnej. U ciężarnych pacjentek dominują klasyczne przełykowe objawy choroby refluksowej. Dodatkowo stwierdzono zwiększoną częstotliwość występowania objawów stomatologicznych oraz laryngologicznych. Nasilenie objawów choroby refluksowej było szczególnie zaznaczone w I i III trymestrze ciąży.