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CERTAIN ASPECTS OF DIAGNOZING AND TREATING ACUTE APPENDICITIS AMONG THE PREGNANT

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The article presents data of retrospective analysis according to histories of 47 pregnant women after appendectomy who were released with a positive outcome from surgical department of railroad hospital in 2013–2014, when totally 810 patients with acute appendicitis were operated. During emergency duties in surgical department of the railroad hospital 2 times a week in different periods of pregnancy part of the operated women with diagnosis of acute appendicitis equaled 5,8% of total number of patients.

Urgency of the problem: According to foreign authors, acute appendicitis happens in 0,7–1,2% of cases among the pregnant. Frequency of this pathology equals from 1:700 to 1:3000 and has no trend to a decrease. Anatomic shift of appendix upwards and to the external tissues together with blindgut that happens according to an increasing period of alvus pregnancy, tendency to astriction that results in stagnation of bowel content and increase in flora virulence, hormonal shifts leads to degradation of immunity, and these are factors that provide for a heavy flow of appendicitis, especially in the second part of pregnancy. In 4–6% of cases it all leads to complications: termination of pregnancy and death of embryo. Acute appendicitis can happen at any period of pregnancy, simple (catarrhal) and destructive (phlegmonous, gangrenous, and perforative) forms of appendicitis are distinguished, the latter result in peritonitis. On the whole, ¾ of all observations happen in the first part of pregnancy. Most frequently appendicitis happen in the I (9–32%) and II trimester (44–66%) of pregnancy, more rarely – in the III (15–16%) trimester and post-birth period (6–8%). Clinic of acute appendicitis in the first trimester of pregnancy flows regularly in 25% of cases. However, diagnostic might be complicated because symptoms such as astriction, dizziness, vomiting that are typical for condition of pregnancy, cannot be considered as appendicitis in the 1st and the 2sd part of pregnancy. Vomiting has no significance as it is usual for pregnancy in general. During palpation of an overgrown stomach according to period of pregnancy it is necessary to consider localization of worm-life sprout that moves upwards along with growth of alvus. In the 2nd part of pregnancy pains can happen not only in the right iliac area, but significantly higher, therefore, other symptoms of abdominal sensation: (defans), Schetkin-Blumberg, Voskresenskiy, etc. These and other symptoms of abdominal sensation are not typical for the pregnant or are not clearly expressed due to the tension of abdominal wall and tension of alvus ligaments. Pains begin in epigastrium (symptom of Kocher) with a gradual shift towards the place of localization of worm-like sprout (symptom of Volkovich) and happen in 1:4. When a patients lays on their left side: due to a certain shift of alvus to the left it is possible to feel out the area of worm-like sprout in detail and reveal symptom of Bartomier-Michelson. Intensification of pain in the right side can be caused by pressure of the pregnant alvus upon the area of inflammation. Pain in the right iliac area emerges – in the lower parts of stomach and higher, right up to the right hypochondrium, depending on degree of sprout shift by alvus and its anatomic location in stomach cavity. For the 2nd part of pregnancy symptoms of Obraztsov and Bartomier-Michelson are typical. Temperature reaction is less expressed than among regular patients, in other words, no rectal temperature (symptom of Krause) is observed. L-cytosis up to $12x10^9/l$ can be observed among the pregnant. Expressions of acute appendicitis clinic is mostly dependent on pathological alterations in sprout. It should be considered that all symptoms can be unexpressed and take place lately. Development of peritonitis often happens in later periods of pregnancy, as conditions of limiting inflammation process degrade in stomach cavity. In case of peritonitis development pulse and body temperature increase, vomiting becomes more frequent, abdominal distention, short breath emerge. During differential diagnostics it is necessary to distinguish appendicitis and not only expressions of pregnancy, but also such diseases as pyelonephritis, urolithiasis, cholecystitis, enterodynia, gastritis, nutritional intoxication. Expressions of appendicitis can also be recognized as such pregnancy complications as late gestosis, threat of pregnancy termination, premature separation of placenta. Laboratory pregnancy tests allow specialists to establish diagnosis of acute appendicitis in 78% of cases, and also decrease frequency of surgical complications by 2, premature birth – by 1,35. Nowadays diagnostics of acute appendicitis among the pregnant is mostly carried out via such methodics as ultrasound examination, modern doppler examination of bloodflow in worm-like sprout and laparoscopy at early stages of pregnancy. According to a number of authors (I.P. Korkan, 1991; Ayub J., 1992; Halverson A.C., and co-authors, 2008), obstetric and surgical complications after appendectomy among the pregnant happen only in 17% of

cases and worsen forecast of embryo development. In case of non-complicated appendicitis perinatal losses equal about 2-17%, and for destructive forms (perforation of sprout with peritonitis) it increases up to 19-50%. The most favourable perinatal results are registered when appendicitis is developed in the II and III trimester of pregnancy. Depression of blind bowel and worm-like sprout by the pregnant alvus causes a necessity to alter surgical access. Regardless of obstetric period, a patients should be transported to a surgical department for appendectomy and further post-surgical treatment, there both surgeon and gynaecologist should observe her. Surgical tactics for all forms of appendicitis among pregnant does not differ from general principals of its treatment. Methods of draining stomach cavity for different forms of appendicitis also preserve their special features of operative technique and methods. It is only necessary to maintain utmost caution during manipulations near the increased alvus, as trauma of it can serve as a direct cause of pregnancy termination or premature birth. We should underline that question on volume and nature of surgical interference in case of destructive appendicitis at the background of long periods of pregnancy must be solved together with obstetrician-gynaecologist with his direct participation in surgery. Access of Volkovich-Diakonov is used in case of reliable diagnosis of acute appendicitis in the first half of pregnancy. This method is not completely adequate for the second half of pregnancy, therefore it is modified according to the principle: the greater is period of pregnancy, the higher should the cut be located. It is allowed to widen cut of Volkovich-Diakonov via cutting rectus upwards in case it is impossible to carry out a detailed hemostasis or it is necessary to carry out tamponade and drainage of stomach cavity in case of prosection periappendicial abscess.

Nowadays due to existence of powerful antibacterial preparations it is possible not to apply cesarean section, without mentioning amputation of alvus. Principle of modern surgical tactic, used for complicated forms of appendicitis among the pregnant can be formulated as follows: maximum efficiency in regard to peritonitis, maximum conservatism in regard to pregnancy. Nowadays in case of ladled peritonitis of appendicitis origin among the pregnant middle laparoctomy is carried out under general anesthesia, after it – evacuation of pus, toilet of stomach cavity, appendectomy, and draining. Surgical wound is then stiched completely. In case of mature pregnancy (36-40), due to inevitability of delivery at peritonitis background, the surgery begins with cesarean section, then, after stitching of alvus and peritonization of stitches appendectomy and all further manipulations take place along with treatment of peritonitis. Necessity of alvus amputation emerges only in case of its destructive damage that is observed rarely in terms of ladled pus peritonitis. It is also necessary to consider that in case of ladled pus peritonitis contraction ability of alvus is decreased significantly. Sometimes danger of atonic bleeding emerges in this regard after cesarean section, and the only method of fighting it is immediate hysterectomy. In case of ladled peritonitis among the pregnant death rate remains extremely high and equals, according to different sources, 23-25% for mother and 40-92% for embryo, besides, the greatest number of deaths is observed in later periods of pregnancy due to polyorgan insufficiency of abdominal sepsis. Unfavourable results of treating laddled pus peritonitis among the pregnant defined the development of extreme radicalism of surgical tactic. It was considered necessary to carry out the following volume of surgical intervention: right after opening stomach cavity undertake cesarean section, then over-vaginal hysterectomy, then appendectomy, toilet, and drainage of stomach cavity.

A special attention should be devoted to acute appendicitis in delivery. Surgical tactic in case of appendicitis during delivery depends on the flow of delivery and clinical form of appendicitis. Thus, in case delivery flows normally at the background of clinical image of catarrhal and phlegmonous appendicitis, emergency delivery should be provided for, and appendectomy should be undertaken. In normal flow of delivery takes place at the background of gangrenous or perforation appendicitis, it is necessary to prevent contractability of alvus temporally, carry out appendectomy, and then simulate delivery again. In terms of apthological delivery it is necessary to undertake cesarean section and appendectomy simultaneously in case of any clinical form of acute appendicitis.

During the post-surgical period, apart from regular therapy, it is necessary to assign treatment, aimed to prevent miscarriage in early terms and immature delivery. The following measures are assigned: strict bedrest, folicium, vitamins, papaverine, intramuscular introduction of 25% solution of magnium sulphate in dose of 5–10 ml 2 times a day, introduction of vitamin E (acetate tokopherol) in dose of 100–150 mg per day as injection of 10% oil solution in dose 1ml 1 time a day. In case of lack in laboratory control over hormonal background, it is advised to avoid prescription of hormonal medications (progesteron, etc.), as in a number of cases their overdosing can result in an opposite effect. It is strictly forbidden to introduce metilsulphate neostigmine (proserine) and hypertonic solution of natrium chloride (10%NaCl) as they are preparations that provide for contraction of alvus. For the same reason hypertonic enema should not be implemented.

Goal and objectives of the research. Goal of this research is to study clinical data of different terms of pregnancy with diagnosis acute appendicitis and its examination by surgeons in collaboration with gynaecologists. The objective is to diagnose acute appendicitis apportunately among the pregnant in order not to allow complications of appendicular nature – peritonitis. For that it is critical to remember recommendations of a well-known surgeon S.I. Spasokukotskiy: «in case of peritonitis surgery during the first hours of it leads to recovery

in 90%, during day – 1 – in 50%, after day 3 – in 10%» The revealed clinical signs of acute appendicitis among pregnant women, discharged from the surgical department of the railroad hospital corresponded to pregnancy period in their comparison to bibliographic data.

Materials and methods. In surgical department of the railroad hospital of the city of Aktobe during years 2013–2014 total of 810 patients were delivered with diagnosis of acute appendicitis, of them 47 (5%) – pregnant women with diagnosis acute appendicitis.

Of total 47 pregnant women 5 patients (10%) were in the 1st trimester, 23 (50%) – in the 2nd trimester, and 1 (1%) – in the 3dr trimester. Age of the patients varied from 20 to 39 years. Clinic of acute appendicitis in the 1st trimester did not differ from non-pregnant (control group was formed of 5 patients who took treatment in the hospital at the moment). In trimesters 2 and 3 diagnosis was established within 2 hours with examination of gynaecologist and US. Testing control with small period of pregnancy allowed to establish diagnosis of acute appendicitis in 78% of cases. In all cases consultation with therapeutist and anesthesiologist took place as well as ECG. In one case laparoscopy was undertaken with diagnostic and medical purpose, lack of obstetric-gynaecological pathology after US with presence of clinical data on stomach cavity disease for one patient as well as her desire to take laparoscopic appendectomy served as a reason of this procedure. According to the studied histories of patients, discharged with favorable outcome, one of the 47 patients, whose pregnancy period equaled 40 weeks, was directed to the maternity clinic straight after surgical department.

Results and discussions: All pregnant women in trimesters 1, 2, and 3 were discharged after appendectomy with preservation of pregnancy, only one patient, whose period of pregnancy equaled 40 weeks was directed straight to maternity clinic after surgical department. Results of 47 histories of dismissed pregnant women were discussed collectively between surgeons, gynaecologists, head surgical department, and interns.

Conclusion:

1. The article presents data of retrospective analysis according to histories of 47 pregnant women after appendectomy who were dismissed with a favorable outcome from surgical department of railroad hospital in 2013–2014, when total of 810 patients were operated in regard to acute appendicitis. During emergency duties in surgical department of the railroad hospital 2 times a week in different periods of pregnancy part of the operated women with diagnosis of acute appendicitis equaled 5,8% of total number of patients. In 25% of cases clinic of acute appendicitis flows regularly during the 1st half of pregnancy. However, diagnostic can be complicated, especially in the 2nd half of pregnancy, as local pains can happen not in the right iliac area, since cecum and its sprout are located behind the increased alvus, other symptoms of stomach damage can also be negative: (defans), Schetkin-Blumberg, Voskresenskiy, etc. Typical symptoms for the 2nd half of pregnancy are: Obraztsov, Bortomier-Michelson. Development of peritonitis often happens in later terms of pregnancy, as conditions of limiting inflammation process in stomach cavity degrade.

2. An indication for undertaking diagnostic laparoscopy for patients at early terms of pregnancy with suspect of acute appendicitis is presence of a typical pain syndrome and objective signs of stomach disease or leucocytosis in lack of data of obstetric-gynaecological pathology from US examination. A counter-indication for undertaking laparoscopic examination is gestation period of over 20–24 weeks.

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PERFORATIONS OF CECUM THAT SIMULATE ACUTE APPENDICITIS

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This article presents three cases that happened in different years of surgical practice in which patients were delivered in emergency to the surgical department of railroad hospital with primary diagnosis of acute appendicitis, and clinic of acute appendicitis was established at the moment of delivery of every patient. However, during surgery in one case perforation of cecum by fishbone (sharp edge of spine) was discovered [1, 2]. In the second case perforation was caused by sewing needle, and in the third – by excrement stone. All three patients were operated and discharged in a satisfactory condition.

Except for the 3 described clinical observations, no more perforations of cecum that simulated acute appendicitis, have been discovered in surgical department. According to archive materials (disease history, etc.) of the surgical department of railroad hospital, o such cases took place before.