

The Method of Defining the Acute Appendicitis in Clinic

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Abstract: Acute appendicitis is a common surgical disease. However, the diagnosis of appendicitis often surgeons make the mistakes. This is due to the high variability of the location of appendicitis and a different clinical picture of the disease. Also comorbidities may complicate the diagnosis of appendicitis. Therefore the use of a large number of different methods for determining acute appendicitis increases the accuracy of diagnosis. One method of determining appendicitis is the method proposed by the authors (preliminary (innovation) patent – №7698 from 15.07.1999), which showed good results in the clinic.

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1. Introduction

Acute appendicitis is the most frequent emergency surgical pathology (Wray et al, 2013; Rachid et al, 2012). The number of patients, suffering from this disease, ranges from 20 to 50% of all patients in surgical hospitals (Krieger et al, 2002). Number of appendectomies is 30% of all surgical operations and 75-85%, correspondingly, of the number of emergency operations (Greenberg, 2000). According to bibliography data rise of patients with acute appendicitis and an increase in appendectomies is noted.

However, in the diagnostics of acute appendicitis, there are still many unsolved problems. Several diseases: diseases of the gastrointestinal tract, gynecological, urological diseases, as well as some acute infectious diseases, have similar symptomatic with that one of acute appendicitis. This is confirmed by the number of diagnostics errors, reaching 10 - 45% in surgical practice in adult population (Gulmuradov and Novikova, 2000). Late diagnostics of acute appendicitis can lead to severe suppurative-septic complications, including lethal complications, and the fear to miss appendicitis leads to vain appendectomy.

Diagnostic errors lead to a deterioration of the general condition of the patient and increases the financial costs of antibacterial treatment (Saleh et al, 2013).

Women appendectomy is performed 2-3 times more often than men one (Gulmuradov and Novikova, 2000).

Particularly noteworthy are the patients of elderly and gerontic age with acute appendicitis. The difficulties in diagnostics of patients older than 60

years may be due to peculiar clinical run of acute appendicitis, worsening of companion pathology on the part of various organs and systems, difficulties in collecting anamnesis, non-critical attitude to their own state, as well as a reduced perception of pain. Rapid development of destructive forms of inflammation in the appendix, due to age-related sclerotic changes in the blood vessels, including also the appendicular artery, is characteristic. So, according to the literature data the number of destructive appendicitis's reaches 75.6-84% of all operated patients in this age group.

Patients of elderly and gerontic age often have weakly expressed cardinal symptoms of acute appendicitis: muscle tension of front abdominal wall is noted only in 24,5%, symptom of Blumberg – in 56,3%, Rovzing – in 34,5%, Kocher – in 23,7% of patients (Krieger and Fedorov, 2000).

At the diagnostics of non-complicated forms of acute appendicitis the most informative are local pain and Kocher-Volkovich symptom. Other symptoms of acute appendicitis, and they are over two hundred, are informative only in combination with other signs of acute appendicitis and are not specific for this disease. Today it is considered, that the laboratory tests are not specific for acute appendicitis. Considering all above said, the issues of definition and treatment of acute appendicitis and its complications remain very relevant.

Objectives of research: The aim of this study is to improve the treatment results of patients with acute appendicitis by improving the quality of preoperative diagnostics.

2. Material and Methods

At retrospective analysis of 658 case histories (2012-2013 years) of patients with acute appendicitis, treated in hospital of emergency medical services of Shymkent (Shymkent Emergency Care Hospital, among them 425 patients were women, 233 – men, which accounted for 64,6% and 35,4% respectively. Age composition of patients ranged from 16 to 58 years, with most of the patients being of young, working age – 89,2%.

The practice of emergency hospital shows that none of the symptoms of acute appendicitis is positive in 100% of the cases and they all complement each other and affect the diagnosis of acute appendicitis, it is seen, that almost all surgeons of Shymkent Emergency Care Hospital point, mainly, to the presence of positive symptoms of Shchetkin-Blumberg (69,3%), Voskresenskiyi (57,2%), Rovzing (68,5%), Sitkovskiy (55,0%), Bartome-Michelson (85,2%) and very rarely Obraztsov (7,2%) and Cope (4,5%).

Employees of the Chair of Surgical Diseases of South-Kazakhstan State Pharmaceutical Academy, developed and identified one more symptom of acute appendicitis (preliminary (innovation) patent – №7698 from 15.07.1999. “The Method of definition of acute appendicitis – symptom of Yessirkepov”).

To identify this symptom it is necessary to put left hand palm on the right costal arch, so that the thenar area of the hand would be directly on its extruding part and then quickly press down with a small force of the left hand on costal arch on the right to the side of the spine, i.e. downward, sideways and inward. At this time, the died down pain appears or increases in the right iliac area, and at removal of the hand, the coastal arch, due to its elasticity, will gain its natural position. In this case with his right hand, the researcher holds the chest of the patient on the left or the wing of the left iliac hand.

Pathophysiological substantiation of this symptom is the increased intratestinal pressure in the ascending segmented colon, which moving back, “stretches” the blind colon, and acting on the inflamed appendix, increasing the pain in this area, because skeletopically hepatic angle of the segmented colon is in a fixed state by ligaments, slightly above the level of the most protruding part of the right costal arch.

It should be noted that the intracolonic pressure will be directed along the intestine, which will trigger pain, regardless of the location of the appendicular process.

3. Results and discussion:

In the Emergency Care Hospital in Shymkent was admitted 658 patients with acute appendicitis, in

621 cases (94,4%) at the examination of patients a positive symptom of acute appendicitis, proposed by us, was identified.

In the remaining 37 patients, representing 5,6%, in whom, the symptom, developed by us, was negative, at histological examination acute catarrhal appendicitis was found. The study found out that “the symptom of Yessirkepov” was more reliable at destructive forms of acute appendicitis.



Figure 1. Pathophysiological substantiation of Yessirkepov's symptom. Place of the force is shown by “the shaded circle”. Direction intrainestinal pressure indicated by “the arrow”. This pressure leads to pain in the appendix (shown by “the shaded lightning”)

The Emergency Care Hospital in practice observed two cases, when at the examination of patients the symptoms of peritoneal excitation and other symptoms were negative or doubtful, but the symptom of Yessirkepov was positive. After 8-10 hours of observation, with the consultations of related specialists, these patients were operated on and by the macro- and microscopic studies of the appendix the presence of acute destructive appendicitis was found.

The dependence of the diagnostic value of the proposed symptom of acute appendicitis on the degree of destructive changes of the appendix has been studied.

4. Conclusions.

Using a new symptom of acute appendicitis in the hospital showed good results.

New symptom can be used to diagnose appendicitis with other symptoms of appendicitis determination.

We believe that this symptom of acute appendicitis has a right to take a worthy place in the rank of valuable diagnostic tests to identify acute appendicitis.

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