The Peerian Journal
Open Access | Peer Reviewed
Volume 5, April, 2022.
ISSN (E): 2788-0303
Website: www.peerianjournal.com
Email: editor@peerianjournal.com

Actical Errors in Surgical Treatment of Strengthened Abdominal Hernias

Rayimov G.N., Tillaboldiyev A.R., Saloxiddinov N., Dekhkonov Sh.Sh.
Fergana branch of the Republican Scientific Center for Emergency Medical Care, Republic of Uzbekistan.

Abstract: The study of literature data on the issue of strangulated abdominal hernias suggests that the problem of surgical treatment of this category of patients has not lost its relevance to the present, primarily due to the significant incidence of this disease, the frequency of diagnostic errors in this disease does not tend to decrease. The main causes of errors in diagnosis and tactics are seen in such factors as the late admission of patients to the hospital, especially in elderly and senile patients, the erasure of symptoms in these patients and the presence of a large number of concomitant diseases that complicate diagnosis and aggravate the postoperative period. Unfortunately, there are also frequent cases of careless, inattentive examination of patients by doctors, both before the hospital and the hospital network, leading to a review of the pathology, or to an incorrect interpretation of the data obtained.

Materials and research methods. We analyzed the results of surgical treatment of 775 patients with strangulated abdominal hernia who were treated in abdominal surgery at the FFRNCEMF from 2014 to 2021. The diagnosis was established on the basis of the clinical picture, the results of clinical and instrumental (plain radiography of the chest, abdominal cavity, ultrasound of the abdominal organs) research methods.

Results of the research and their discussion. We have experience in the treatment of 775 patients with strangulated hernia of various localization. There were 238 men (30.7%), women - 537 (69.2%). 281 patients (36.3%) were hospitalized under the age of 60 years, 494 (63.7%) older than this age. As can be seen from the data presented, the elderly and senile age predominate. 302 patients (38.9%) were treated for inguinal hernias, 138 (17.8%) for femoral hernias, 136 (17.5%) for postoperative hernias, 153 (19.7%) for umbilical hernias, 44 for the white line of the abdomen (5.6%), post-traumatic diaphragmatic hernia - 2 (0.25%), 613 patients (79%) were admitted to the clinic within 6 hours from the moment of the disease, 88 patients (11.3%) - up to 24 hours, over 24 hours - 74 (9.5%) . Late hospitalization of patients in a large number of cases is determined by late seeking medical help. These are, as a rule, persons of elderly and senile age with a long history of hernia. Often, out of deep-rooted habit, they tried to correct a strangulated hernia, or they tried to alleviate their condition by using heating pads, cleansing enemas, etc. And only the failure of these measures was the reason for the late visit to the doctor. At the same time, it is impossible not to touch upon the issue of diagnostic and tactical errors of doctors before the hospital stage in relation to patients with strangulated hernias. This took place, according to our data, in 33 (4.2%) sick. There are two categories of errors here:
1) the hernia was not recognized at all, but another disease was diagnosed (acute appendicitis,

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acute intestinal obstruction, acute abdomen, peritonitis, closed abdominal trauma);
2) the strangulated hernia was taken as irreducible .

As for the first category of errors, here we are talking about a violation of the methodology for examining patients, a superficial, inattentive examination, as well as the absence of appropriate alertness; when complaining of pain in the abdomen, ambulance doctors not in all cases examine the areas of possible hernial protrusions (inguinal, femoral), and if they are examined, then carelessly. There is no doubt that in obese patients it is very difficult to treat a small strangulated hernia. Here, extreme care and scrupulousness are especially needed when examining a patient. In addition, it is necessary to make it a rule for men to carry out a mandatory examination of the entire inguinal canal with a finger with a palpation of the inner ring. This simple and easily accessible technique can be a significant help in the diagnosis.

Regarding the second group of errors, it should be noted that emergency doctors sometimes engage in differential diagnosis, which is hardly mandatory for them, between an irreducible and strangulated hernia. Undoubtedly, such differentiation may present certain difficulties in individual cases. Hence the practical conclusion: all doubtful cases, even the slightest suspicion of infringement of a hernia, should be the basis for delivering the patient to the hospital.

Difficulties in diagnosing the so-called false infringement of hernias are well known. We observed it in 4 (0.5%) patients. Two of them were operated on for imaginary infringement: one had acute phlegmonous appendicitis in the inguinal hernia, the other had perforation of the small intestine, located in the hernial sac, also in the inguinal hernia, the cause of the perforation was ulcerative enteritis. In the rest, the correct diagnosis was made upon admission to the clinic: stomach cancer with abdominal cavity carcinomatosis in 1 patient, perforated gastric ulcer - in 1.

The analysis shows that a carefully collected anamnesis, a thoughtful and scrupulous study of the dynamics of the disease, a correctly conducted objective examination of the patient in most cases makes it possible to recognize a false hernia incarceration and correctly make the main diagnosis. The underestimation of these data often leads to unnecessary operations or irrational online access.

I would like to speak about tactics in relation to patients who spontaneously reduced a strangulated hernia on the way to the clinic or immediately after hospitalization. We fully share the opinion of those authors [2,12,13] that these patients are subject to mandatory hospitalization. However , we are not in a hurry with the operation, but we consider it possible to carry out dynamic observation. At the first signs of a catastrophe in the abdominal cavity, in particular, the appearance or intensification of abdominal pain, the appearance of symptoms of peritoneal irritation, surgical intervention is performed immediately. It must be said that out of 18 (2.3%) of these patients, we did not have to intervene urgently in any of them, and the operations were performed according to plan after a thorough examination, preparation and appropriate correction of concomitant diseases, and in 5 (0.6%) patients we generally refused the operation due to the presence of obvious contraindications due to severe concomitant pathology.

It should be noted that already in the hospital, not in all cases, the operation was undertaken in a timely manner, and prolongation from several hours to 6 days was allowed. We are talking about two patients over 60 years of age with severe comorbidities. We fully agree with those authors who believe that in people of this age group, the main symptom - pain, is not clearly expressed,

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moreover, it is often obscured by pain sensations of a different origin. To this, as already mentioned, comorbidity should be added. So, one of the above patients had severe cardiac decompensation, which, in the anamnesis and not pronounced signs of infringement of the inguinal hernia, caused the surgeon on duty to fear a futile operation, inclining him to the conclusion about a possible false infringement. This led to an unnecessary delay in surgical intervention for 12 hours, when irreversible changes had already occurred in the strangulated intestinal loop, which required its resection, i.e. the volume and severity of the operation increased significantly. As a result - death on the 3rd day from acute heart failure. In addition to umbilical hernia, another patient had hypertension III degree in combination with diabetes mellitus. Due to the scarcity of the clinic, the hernia was regarded as irreducible, and only on the 6th day, when signs of phlegmon of the abdominal wall appeared, the operation was undertaken. The site of the greater omentum turned out to be infringed, which predetermined the absence of severe pathology from the abdominal organs. We consider it necessary to dwell separately on the issues of diagnosis and tactics in case of strangulated postoperative hernias. As you know, the features of such hernias include: a more pronounced violation of the anatomical relationships of the abdominal wall and abdominal organs after previous operations (sometimes multiple interventions), a combination of hernia with adhesive disease, the presence in patients of chronic epiploit as a result of cicatricial degeneration of the omentum, accompanied by pain syndrome of varying intensity. Consequently, for some patients, pain sensations can be expressed even before infringement, and they do not always catch the appearance of new pains or the strengthening of old ones. In addition, many have signs of a chronic violation of the intestinal passage on the basis of adhesions in the abdominal cavity, and periods of deterioration in bowel emptying may alternate with light intervals. From what has been said, it becomes clear what difficulties the surgeon may experience when examining a patient in such cases. We observed several elderly people, mostly women, in whom almost the entire anterior abdominal wall was represented by a huge multi-chamber hernial protrusion with areas of varying density, varying pain, some of which were reducible, others were not. The diagnostic, tactical and technical difficulties that confronted us are quite understandable. Sometimes it was extremely difficult to even determine the exact location of the infringement. However, taking into account the above features, all doubts were resolved by us in favor of the operation, and we never regretted it. If the patient's condition was severe due to the presence of concomitant diseases, we limited ourselves to the elimination of the infringement without subsequent abdominal wall plasty. There were two such cases. All patients recovered. Based on the analysis of literature data and observations of patients with strangulated incisional hernias, bearing in mind the peculiarities of the pathogenesis of these hernias, the clinic, diagnosis, and, often, the tactics of the surgeon in this pathology, we, without claiming the indisputability of our judgments, came to the conclusion that expediency of allocation of the specified hernias in independent group. Then the statistical indicators, which are undoubtedly worse than with other types of hernias, will be analyzed more purposefully, and not obscured by the general data given for hernias in general.

In severe condition of patients due to intoxication due to peritonitis, intestinal obstruction, as well as concomitant pathology, short-term (1-2 hours) preoperative preparation is mandatory, aimed at correcting the onset violations of the functions of the main organs and systems of the

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body. We consider the neglect of these measures to be a tactical mistake.

, especially since there are no absolutely reliable criteria for such an assessment so far. Apparently, those surgeons who recommend resection of the intestine even with the slightest doubt about its viability are absolutely right. As many authors rightly point out, it is especially necessary to be careful when assessing the state of a restrained organ in the elderly and old people. Infringement of the mesentery against the background of sclerosis, fragility of its blood vessels, and even in combination with hemodynamic disorders in these patients, can cause secondary thrombosis with the development of anastomotic suture failure and peritonitis. Therefore, in elderly patients, the acceptable generally accepted resection margins should be maximized, and active anticoagulant therapy should also be used after surgery. This complication was observed in 3 of our patients, in all cases with a fatal outcome.

Technical errors during operations should be touched upon. They occurred in 11 (1.4%) patients: poor-quality repair of the hernia orifice leaving a defect - 4 patients, insufficient hemostasis with subsequent development of hematomas - 4, excessively tight suturing of the external opening of the inguinal canal - 2, bleeding from the superficial epigastric artery - 1.

In one patient, as a result of incomplete suturing of the femoral canal (the inner femoral ring remained unsutured), the intestine was re-strangulated. Naturally, the recognition of this complication presented extreme difficulties, firstly, because of the difficulty of assuming it, and secondly, in connection with the pathology of the abdominal organs from the first infringement and the operation performed. The patient died of peritonitis. It is easy to understand that a more attentive attitude of the surgeon to all the details of the operation would ensure the prevention of these complications in each case. In total, postoperative complications were noted in 87 patients (11.2%).

17 patients died (2.19%). Causes of death: peritonitis - 2, acute heart failure - 9, pneumonia - 1, myocardial infarction - 2, pulmonary embolism - 2, acute cerebrovascular accident - 1.

Returning to diagnostic errors, it is necessary to say about those cases when a strangulated hernia was diagnosed in the absence of a hernia at all. There were 5 such cases: gastric cancer metastases to the navel - 1, cyst of the round ligament of the uterus - 2, inguinal lymphadenitis - 2. Four patients were operated on, the fifth was diagnosed with metastasis of a cancerous tumor to the navel and avoided surgery . Without belittling the difficulties that sometimes occur in the differential diagnosis of the above pathology , we think that the correct accounting of anamnestic data , a thorough examination of patients would help surgeons avoid diagnostic and tactical mistakes .

Conclusions

1. The most common causes of diagnostic and tactical errors in strangulated hernias are the difficulties associated with the obliteration of the clinical picture of the disease in elderly and senile people , especially when the disease is long-standing , as well as an incomplete , superficial examination of patients .
2. Features of the pathogenesis and clinic of postoperative strangulated hernias dictate the need to separate them into an independent group.
3. With any suspicion of infringement of a hernia, patients should be sent to a hospital, and

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hospital surgeons in doubtful cases are required to set indications for surgical treatment more widely.

4. Anticoagulant therapy in the postoperative period in elderly and senile patients is aimed at preventing thromboembolic complications, including secondary thrombosis in the area of resection of the strangulated intestinal loop.

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