SUMMARY

Purpose: The purpose of this study is to analyze the clinical indications as well as the results of urgent laparoscopic surgery in acute abdominal diseases.

Material and Methods: A total of 762 patients with a diagnosis of the acute non-traumatic abdomen were hospitalized for a period of two years from 1.1.2014 to 1.1.2016 in the Department of General, Visceral and Emergency Surgery at UMHATEM “Pirogov”. Of these, women were 443 (58.14%), men 319 (41.86%). The age in this retrospective analysis varied from 18 to 79 years (average 51.3).

Results: Patients with acute appendicitis diagnosed by and treated by laparoscopy were 232. Approximately 32 of those patients were initially diagnosed laparoscopically with a further transition to therapeutic laparotomy. For acute cholecystitis, 534 patients have been operated laparoscopically. Laparoscopy after ERCP was performed in 38 cases.

Conclusions: Laparoscopy provided a diagnosis in a large number of patients. It is a very good diagnostic and therapeutic tool. It may be considered as first-line surgical investigation for undiagnosed abdominal pain with no specific etiology.

Keywords: acute non-traumatic abdomen, peritonitis, approach, conventional surgery, laparoscopy,

INTRODUCTION

In the nineties of the last century, a number of surgical institutions promoted the use of laparoscopy as a diagnostic or therapeutic tool that can optimize emergency surgical treatment in patients with the acute abdominal disease. For example, a number of cases of non-specific abdominal pain are suspected of acute appendicitis. Especially this is characteristic of young people who have pain and discomfort in the right iliac fossa, and are mistakenly subjected to surgery. In a study of 135 appendectomy patients, in 33% of the cases, patients had no evidence of acute appendicitis [1]. As a diagnostic tool, emergency laparoscopy does not compete with other diagnostic options but complements them, taking into account the risks associated with the method. The efficacy of laparoscopy in this role is mainly related to the postponing of unscheduled urgent laparotomy and the avoidance of “missed diagnosis” [2]. The development of laparoscopic surgical technology and methodology implies the possibility of correct and reliable intra-abdominal diagnosis and a logical, direct transition to therapeutic pathological resolution. A number of urgent surgical abdominal ailments are considered to be appropriate with advantage for laparoscopic surgical treatment: acute appendicitis; acute cholecystitis; perforation of the gastro-duodenal ulcer; acute inflammation and ruptured gynecological lesions. The advantages of emergency laparoscopy are expressed in the optimal choice of treatment in urgent surgical conditions, shorter periods of postoperative recovery and significant reduction of postoperative pain and some complications [3, 4, 5, 6, 7, 8].

The purpose of this study is to analyze the areas and conditions of clinical use as well as the results of urgent laparoscopic operations in acute abdominal diseases.
MATERIAL AND METHODS

Within a retrospective, clinical analysis, 762 patients with acute non-traumatic abdomen were diagnosed with laparoscopy and operated from 1.1. 2014 to 1.1. 2016 in the Department of General, Visceral and Emergency Surgery UMHATEM “Pirogov”. The identification of this condition was also made on the basis of history taking, physical examination, laboratory results, radiography, echography and CT. Of the hospitalized, women were 443 (58.14%) and men-319 (41.86%). In this study, the parameters - age, gender distribution, clinical symptoms, mode of treatment, morbidity and mortality were analyzed. The age in this retrospective analysis varied from 18 to 79 years (average 51.3). The distribution by nosological units is given in Table 1.

Patients under 18 years of age and with more than one previous abdominal operation and complicated comorbidity were excluded from the study.

The data from all patients admitted with acute non-traumatic abdomen were carefully systematized, analyzed and summarized. The results were summarized by tracking the morbidity up to one-month post-discharge.

### Table 1. Distribution by nosological units

<table>
<thead>
<tr>
<th>Nosology in emergency laparoscopic operations</th>
<th>Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>acute appendicitis</td>
<td>271</td>
</tr>
<tr>
<td>acute cholecystitis</td>
<td>434</td>
</tr>
<tr>
<td>perforated gastro-duodenal ulcer</td>
<td>21</td>
</tr>
<tr>
<td>obstruction from intraabdominal adhesions</td>
<td>11</td>
</tr>
<tr>
<td>incarcerated inguinal hernia</td>
<td>5</td>
</tr>
<tr>
<td>pelvic inflammatory disease</td>
<td>4</td>
</tr>
<tr>
<td>ruptured ovarian cyst</td>
<td>3</td>
</tr>
<tr>
<td>perisigmoidal abscess in acute diverticulitis</td>
<td>2</td>
</tr>
<tr>
<td>right subdiaphragmatic abscess</td>
<td>1</td>
</tr>
<tr>
<td>iatrogenic perforation of the sigma</td>
<td>1</td>
</tr>
<tr>
<td>haemoperitoneum from spontaneous retroperitoneal hematoma</td>
<td>1</td>
</tr>
<tr>
<td>carcinosis of the peritoneum</td>
<td>1</td>
</tr>
<tr>
<td>rectal haemorrhage in rectal carcinoma</td>
<td>2</td>
</tr>
<tr>
<td>nonspecific abdominal pain</td>
<td>3</td>
</tr>
<tr>
<td>postoperative haemorrhage</td>
<td>2</td>
</tr>
</tbody>
</table>

RESULTS

The results of the most common conditions - acute appendicitis and acute cholecystitis - have been analyzed.

Of the 719 operated patients for acute appendicitis, women were 341, male 378. The average age was 47.3. In 91% of the cases, the overall ASA status was I-II. With peritonitis were 83 (11.5%) patients. Laparoscopically diagnosed and treated were 271 (37.7%). Women were 150, men 121. With peritonitis were 16 (5.9%). Diagnosed and treated by laparoscopy alone were 232 of the cases (Table 2). Approximately 32 patients were initially diagnosed laparoscopically with a further transition to therapeutic laparotomy. Seven patients underwent conversion (2.6%).
Intraperitoneal complications (abscess, post-operative adhesions, intestinal lesion) have been reported with 10 cases (3.69%). There were 2 patients with wound infection. Reported morbidity was 4.43%. The hospital stay was an average of 2.7 days. The mortality rate was 0%.

A total of 583 patients with acute cholecystitis were operated. Women were 345, men-248 (Table 3). The average age was 56.9 years. The grade of ASA was I-II. Laparoscopically have been operated, 534 patients. Of these, women were 319, men 225. The average age was 54.5 years. Laparoscopy after ERCP was performed in 38 cases. Conversion after diagnostic laparoscopy was recorded in 29 cases (5%). The average hospital stay was 3.2 days. There were 5 patients with wound infection, and another 5 were diagnosed with intraperitoneal complications (abscess, adhesions). The morbidity was 1.87%, mortality-0%.

**DISCUSSION**

When assessing the role and specifying the emergency laparoscopy methodology, two aspects are distinguished: the assumption of an expected specific procedure in a mini-invasive version based on in-depth diagnosis and the identification of nature and severity of an undetectable pathology.

Emergency laparoscopy should not be applied unconditionally, but as a tool of strictly logically justified choice, taking into account the patient’s personal features and the health facilities.

A number of documented facts about the ad-
vantages of emergency laparoscopy in acute abdominal surgical diseases were presented. There are all signs that in the near future, this method will be dominant in emergency abdominal surgery. However, open emergency abdominal surgery remains an alternative in a number of emergency states and has qualities that make it a mandatory and the main field of training and development of each surgeon.

The successful practice of emergency laparoscopy is based on an efficient and safe medical-diagnostic protocol, including the mandatory selection of patients, the preparation and experience of surgical teams, and the uncompromising security of safe medical devices and surgical supplies.

Discussion is necessary except for the medical advantages and the social and economic parameters of laparoscopic surgery and for its correct assessment and valuation by the health-administrative and health insurance institutions.

**CONCLUSION**

Laparoscopy provided a diagnosis in a large number of patients. It is a good tool for diagnosis and therapeutic surgery. It may be considered as first-line operative investigation for undiagnosed abdominal pain with no specific aetiology.

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**REFERENCES:**


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