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DIAGNOSTIC VALUE OF EMERGENCY LAPAROSCOPY IN ACUTE ABDOMINAL DISEASES WITH

Unclear Clinical Presentation

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Relevance: Acute diseases of the abdominal organs remain one of the most common causes of emergency hospitalization and urgent surgical interventions. A significant clinical challenge is represented by patients with an unclear or atypical clinical presentation, in whom conventional diagnostic methods—clinical examination, laboratory tests, ultrasonography, and computed tomography—do not always allow timely establishment of an accurate diagnosis and determination of optimal treatment strategy. Diagnostic errors and delayed verification of the disease often lead to progression of the pathological process, development of complications, and deterioration of treatment outcomes. Under these conditions, emergency laparoscopy acquires particular importance as a highly informative and minimally invasive method that enables direct visualization of the abdominal organs, clarification of the nature and extent of pathological changes, and, in many cases, immediate transition from diagnosis to treatment. The use of laparoscopy contributes to a reduction in the number of unjustified laparotomies, shorter hospital stays, and a lower incidence of postoperative complications. Despite the widespread introduction of modern imaging techniques, the issue of rational use of emergency laparoscopy in patients with an unclear clinical presentation of acute abdominal diseases remains debatable and requires further scientific substantiation. In this regard, the study of the diagnostic value of emergency laparoscopy and its impact on the choice of surgical tactics is a relevant and practically significant task of modern abdominal surgery.

Aim of the study: To evaluate the diagnostic capabilities and clinical effectiveness of emergency laparoscopy in patients with an unclear clinical presentation of acute abdominal diseases in order to improve diagnostic accuracy and optimize surgical management.

Materials and methods: The study was conducted at the Bukhara branch of the Republican Scientific Center of Emergency Medical Care (RSCEMC) on the basis of surgical departments. During the period from 2020 to 2025, a total of 20,493 surgical procedures were performed at the branch, of which 9,461 (approximately 46.2%) were open abdominal operations. The study group included 2,479 (26.2%) patients with urgent diseases of the abdominal organs who underwent surgery using laparoscopic technologies among all abdominal operations performed during the study period. A parallel comparative analysis of laparoscopic and open surgical methods was carried out. All admitted patients underwent comprehensive clinical evaluation according to standard protocols using conventional laboratory and instrumental diagnostic methods. General clinical and biochemical blood tests, detailed assessment of the coagulation system, plain abdominal radiography, and contrast radiographic studies of the gastrointestinal tract were performed. The diagnostic algorithm also included ultrasonography of the abdominal cavity and pelvis, computed tomography (including contrast-enhanced CT), and, in selected cases, magnetic resonance imaging for diagnostic clarification. Endoscopic evaluation included fibroesophagogastroduodenoscopy. According to indications, patients with cholelithiasis underwent endoscopic retrograde cholangiopancreatography (ERCP), supplemented by endoscopic papillotomy when necessary. Patients who underwent laparoscopic diagnostic and therapeutic procedures ranged in age from 23 to 77 years; 961 (38.7%) patients were older than 60 years. The structure of laparoscopic interventions was dominated by laparoscopic cholecystectomy for acute calculous cholecystitis, performed in 1,984 (80%) cases. Diagnostic and therapeutic laparoscopy was carried out in 49 (1.9%) patients, diagnostic and therapeutic thoracoscopy in 32 (1.3%), laparoscopic appendectomy in 18 (0.7%), and laparoscopic closure of

perforated gastric and duodenal ulcers in 15 (0.6%) patients. In gynecological practice, 112 (4.5%) laparoscopic cystectomies and 181 (7.3%) laparoscopic tubectomies were performed. Laparoscopic adhesiolysis was carried out in 24 (0.9%) patients, and laparoscopic ureterolithotomy in 64 (2.6%) cases.

Results: The analysis demonstrated that the use of emergency laparoscopy in patients with an unclear clinical presentation of acute abdominal diseases significantly increased the accuracy of preoperative diagnosis and facilitated timely determination of rational surgical tactics. In a substantial number of cases, laparoscopy became the decisive method for diagnostic verification when clinical, laboratory, and imaging findings were contradictory or insufficiently informative. The laparoscopic approach enabled not only direct assessment of the nature and extent of the pathological process but also, in most cases, simultaneous performance of the required therapeutic intervention without conversion to laparotomy. This resulted in a reduction in the rate of diagnostic laparotomies and minimized surgical trauma. Comparative analysis of laparoscopic and open procedures revealed that laparoscopic surgery was associated with lower intraoperative blood loss, a decreased incidence of postoperative complications, and faster postoperative recovery. Patients operated on laparoscopically demonstrated shorter hospital stays and earlier mobilization, including elderly patients. The obtained results confirm the high diagnostic value of emergency laparoscopy in urgent abdominal pathology, especially in clinically complex and ambiguous cases where the choice of optimal treatment strategy is particularly challenging.

Conclusion:

Emergency laparoscopy is a highly effective and informative diagnostic method for acute diseases of the abdominal organs in patients with an unclear clinical presentation. Its use allows timely diagnostic verification, objective assessment of the pathological process, and determination of optimal surgical tactics. The possibility of combining diagnostic and therapeutic stages within a single intervention contributes to a reduction in unjustified laparotomies, decreased surgical trauma and postoperative complications, and shorter hospital stays. The results obtained indicate the feasibility

and necessity of wider implementation of emergency laparoscopy in diagnostic and treatment algorithms for patients with urgent abdominal pathology.

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