International Congress on
Biological, Physical And Chemical Studies

International Congress on Biological, Physical And Chemical Studies - is an international conference platform under open open-access policy. The conference is led by international expert members who take an abjective approach to peer review, ensuring each research paper is reviewed, edited by authors and evaluated on its own scholarly merits and research integration. Publishing and joining on the procedding of the International Congress on Biological, Physical And Chemical Studies will exsure publishing experience and indexing possibilities on various global indexing.

A Comprehensive Differentiated Approach to the Surgical Treatment of Complicated Acute Pancreatitis Using Minimally Invasive Technologies

Gulmurodov Muxtor Goibovich
Samarkand State Medical University

Relevance. Acute pancreatitis, particularly in its severe forms accompanied by pancreatic necrosis and infected peripancreatic fluid collections, remains one of the most life-threatening acute abdominal conditions. Traditional management approaches based on early open necrosectomy are associated with high rates of postoperative complications, mortality, and prolonged recovery. Modern clinical guidelines emphasize a step-up, organ-preserving strategy based on the differentiated use of minimally invasive interventions, aiming to reduce surgical trauma, improve short- and long-term outcomes, and enhance patients' quality of life. Therefore, evaluating the effectiveness of a comprehensive staged approach using minimally invasive drainage and necrosectomy techniques is a relevant and urgent clinical task.

Materials and Methods. A prospective comparative study was conducted involving 114 patients with complicated forms of acute pancreatitis. Patients were divided into two groups: the **main group** (n=59), which received a staged minimally invasive surgical strategy, and the **control group** (n=55), which underwent conventional open necrosectomy. In the main group, treatment included percutaneous image-guided drainage, endoscopic ultrasound-guided drainage, video-assisted retroperitoneal debridement (VARD), and laparoscopic interventions. All patients received standard intensive care. Outcomes such as complication rates, mortality, hospital stay duration, and restoration of pancreatic functions were analyzed.

Results and Discussion. The use of a differentiated minimally invasive surgical strategy significantly reduced the overall complication rate (from 60% to 40%), postoperative organ failure (from 36% to 15%), and hospital stay duration (median 28 vs. 40 days). In 64% of cases in the main group, open surgery was avoided, leading to reduced surgical trauma, faster nutritional recovery, and lower rates of secondary diabetes and exocrine insufficiency. Thus, the minimally invasive staged approach demonstrated clinical efficacy and safety compared to the conventional surgical strategy.

Conclusion:

The results of the study confirm the high effectiveness of a differentiated surgical strategy for the treatment of complicated acute pancreatitis. The step-up application of minimally invasive interventions within a comprehensive treatment protocol significantly reduces complications and

mortality, improves functional outcomes, and minimizes the need for open surgery. These findings support the widespread implementation of this approach in clinical practice for the management of severe forms of acute pancreatitis.