

## THE USE OF REGIONAL ANESTHESIA IN ELECTIVE LAPAROSCOPIC SURGERY IN PATIENTS WITH ABDOMINAL PATHOLOGY

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### ANNOTATION

Laparoscopic surgical interventions are low-traumatic operations, but with a pronounced postoperative pain syndrome, often this pain on the first day exceeds the pain that occurs in the postoperative period in patients after traditional surgical intervention. The presence of a pronounced pain syndrome is an obstacle to early postoperative rehabilitation within the framework of fast-track surgery or ERAS (Enhanced Recovery After Surgery) programs. In this connection, it became necessary to use other methods of anesthetic management, which allows not only to quickly remove the patient from anesthesia without any side effects from narcotic drugs and opiates, but also to manage anesthesia both in the surgical period and in the perioperative one.

**Keywords:** laparoscopic surgery, anesthesia, analgesia, spinal anesthesia, general anesthesia, epidural anesthesia, anesthetics, PONV.

### INTRODUCTION

In our modern society, every profession strives to improve its methods and technologies, and medicine keeps pace with progress. The introduction of laparoscopic surgery back in the 1950s revolutionized surgery, which is gaining momentum every year due to a number of undeniable advantages. Firstly, blood loss during such operations has significantly decreased, secondly, the postoperative course is less painful, and thirdly, it is beneficial from an economic point of view, since the time spent by patients in the hospital is reduced, as well as from an aesthetic point of view, since these patients practically postoperative scars do not remain, in addition, the risk of developing adhesions in the postoperative period is reduced. But traditional general anesthesia increases the duration of the hospital period, medical costs and reduces the effect of the positive result of low trauma of laparoscopic surgery. The ideal method of anesthesia for laparoscopic surgery should maintain stable cardiovascular and respiratory functions, provide rapid postoperative recovery, result in minimal postoperative nausea and vomiting (PONV), and provide good postoperative analgesia for early patient mobilization. In this connection, the anesthesiologist faced the task of correcting this situation. One solution may be the use of spinal, epidural or spino-epidural types of anesthesia. With the same proven efficacy and safety, spinal anesthesia, devoid of many of the negative aspects inherent in general anesthesia, makes it more and more in demand. Spinal epidural anesthesia provides a longer pain-free period in the postoperative period and a lower neuroendocrine stress response compared to general anesthesia, which made it possible to manage patients within the framework of fast-track surgery or ERAS (Enhanced Recovery After Surgery) programs. Except addition, sick past data

protocols fast return to normal life , and quality life given categories sick practically Not is changing .

Based on our experience, as well as the analysis of the literature, we can conclude that it is spinal anesthesia during laparoscopic interventions that has the least negative effect on the cardiovascular system and cerebral blood flow, provided that the intra-abdominal gas pressure does not exceed 14 mmHg . in addition, in our practice, in a special category of patients (CHD, PICS, etc. ) , a decrease in intra-abdominal gas pressure to 10 mm Hg was used .

### PURPOSE OF THE STUDY

To improve the quality of anesthetic support during elective laparoscopic operations by introducing spinal anesthesia and develop a plan of preventive measures aimed at correcting possible complications.

### CLINICAL MATERIALS AND RESEARCH METHODS

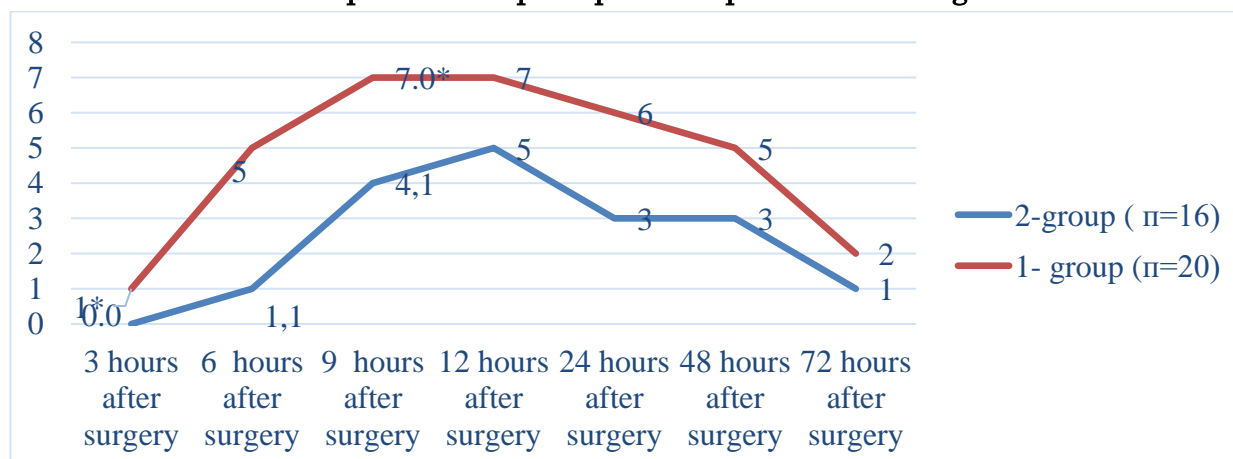
We examined 36 patients in the postoperative period (10 men and 26 women) in the surgical intensive care unit No. 1 of the TMA multidisciplinary clinic, whose average age was  $39.2-3.4 \pm$  years. These patients, with a diagnosis of cholelithiasis, chronic calculous cholecystitis - underwent surgery - laparoscopic cholecystectomy. All patients were divided by us into 2 groups: the control group, which included 20 patients who underwent traditional general anesthesia and the study group, which included the remaining 16, who underwent surgery under spinal anesthesia.

Both groups were randomized by us according to gender and age, the nature of the standard examination and surgical treatment.

All patients underwent clinical and biochemical studies, radiography, computed tomography (CT), during therapy, monitoring of blood pressure (BP), mean arterial pressure MAP , central venous pressure (CVP), thermometry and saturation of venous ( jugular ) blood was carried out. The length of stay of patients in 1- intensive care department and in the clinic as a whole was studied.

### RESULTS OF OWN RESEARCH

Schedule #1. Assessment of pain in the postoperative period according to the VAS scale

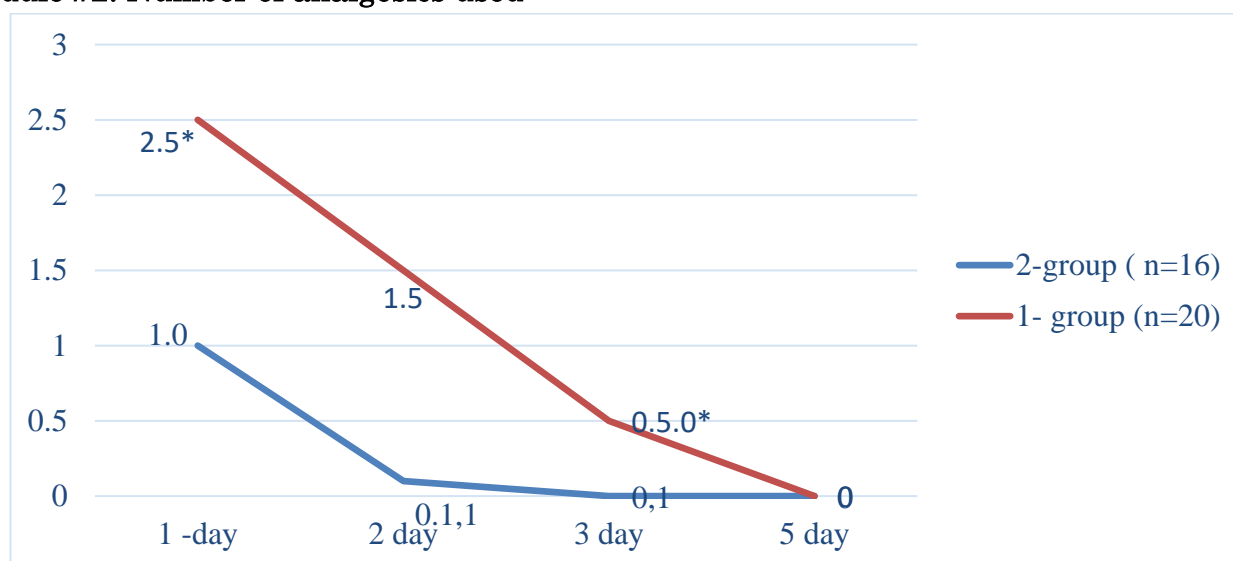


These data clearly indicate that the early postoperative period in patients of group 2 is assessed as more painless on the VAS scale, since in the first 6 hours after surgery the patient practically does not feel pain, and by the end of the first day patients of group 2 assessed pain  $-3,2 \pm 0.3$  ( $p < 0.05$ ), which is  $2.0 \pm 0.5$  lower than those of patients of the 1st group.

But by the end of the third day, patients in both groups rated their pain as mild.

Dynamics of CPP threshold values by groups in the course of differentiated therapy is shown in graph No. 2.

**Schedule #2. Number of analgesics used**

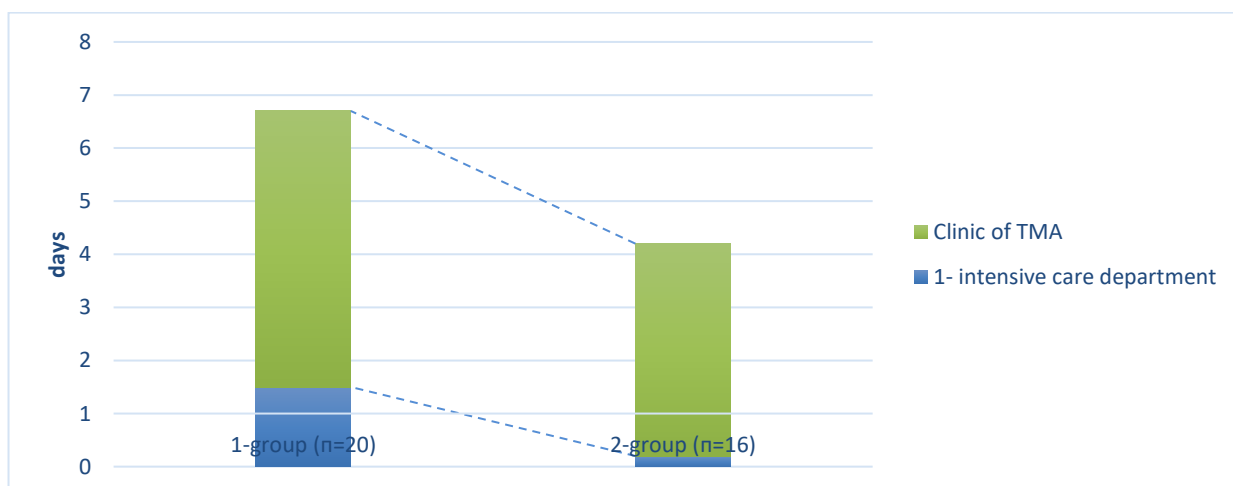


Reliability:  $p^* < 0.05$  ;  $p^{**} < 0.05$ ;

The presented graph demonstrates a relatively lower need for narcotic analgesics in patients of group 2 compared to group 1.

The time spent by patients in 1- intensive care department and in the clinic as a whole is presented in the following graph No. 3.

**Graph No. 3. The time spent by patients in 1- intensive care department and in the clinic.**



Reliability:  $p^* < 0.05$  ;

The presented data clearly indicate an earlier period of activation of patients in the postoperative period and discharge of patients from the hospital.

It should be noted that no complications were detected in any of the groups. Pain and discomfort at the injection site was observed in one case.

As the scientists conclude, although they did not observe the development of thromboembolic complications during laparoscopic cholecystectomy, anesthesia changes the coagulation state, causing a hypercoagulable state. And more pronounced shifts occur with spinal or epidural anesthesia than with general anesthesia. Therefore, antithrombotic prophylaxis is necessary during laparoscopic interventions, especially in elderly patients, with cardiac arrhythmias and heart failure.

### CONCLUSIONS

1. Spinal anesthesia in laparoscopic operations is a fairly effective and reliable method of pain relief.
2. This method of anesthesia is not without certain disadvantages (side effects) inherent in spinal anesthesia in general, which sometimes requires additional corrective measures.
3. The addition of narcotic analgesics (morphine, fentanyl) parathecally significantly improves the course of the early postoperative period and promotes rapid rehabilitation.
4. Due to the increase in hypercoagulability, patients need to carry out adequate anticoagulant therapy.

Based on the foregoing, it must be assumed that spinal anesthesia has established itself as a safe and effective method of anesthesia in laparoscopic operations with a large number of positive aspects, which can solve many problems that have arisen before the anesthesiologist. It may become the standard routine technique for laparoscopic surgery, but prospective studies are needed to date. randomized controlled clinical trials involving a large number of patients. But it should be noted that the choice of anesthesia technique is individual for each patient and depends on the clinical situation.

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