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OPTIMIZATION OF REHABILITATION MEASURES IN THE POSTOPERATIVE PERIOD IN PATIENTS ON THE BACKGROUND OF COVID-19

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Annotation
A complex of rehabilitation measures, including early restoration of the tone of the trunk muscles and respiratory excursion of the chest wall, restoration of airway patency and measures for the prevention of pulmonary atelectasis, contributes to the rapid restoration of the function of the respiratory system, the prevention of the occurrence of postoperative pneumonia. Along with this, the use of a complex of medical and non-drug measures aimed at reducing the intraluminal pressure in the hollow organs of the digestive system creates the prerequisites for the restoration of intestinal motility and prevents the occurrence of paretic postoperative intestinal obstruction.

Keywords: rehabilitation; prevention of postoperative complications; multidisciplinary approach.

INTRODUCTION

One of the ways to increase the effectiveness of surgical treatment of diseases of the abdominal cavity is to reduce the frequency of complications in the immediate postoperative period, which reduce the effectiveness of treatment, lengthen the duration of inpatient treatment. Having transferred COVID-19, wherein in Khodnev E gate E pathogen serves epithelium of the upper airway and ep iteliotsity stomach and intestines, affects Postoperative period for surgical patients. In this context, rehabilitation measures aimed at recovery of disturbed vital functions, is th are not only a medical problem, but also a social one [2,6]. At the same time, the complex of rehabilitation measures in the first hours of the postoperative period is almost undefined, the strategic objectives of rehabilitation, priority areas, methods of implementation and assessment of their effectiveness are not clearly defined [3,7]. The speed and usefulness of the restoration of the health of patients depends on the compensatory restructuring of all organs and systems, especially the respiratory and circulatory organs. Naturally, this restructuring cannot be achieved with drug therapy alone. The positive effect of ozone therapy in generalized peritonitis has been proven [1]. The use of various methods and means of physical rehabilitation to the maximum extent contributes to the restoration of the functions of the vital systems of the body, prevents the occurrence of postoperative complications, promotes a speedy recovery and restoration of working capacity [8]. Therefore, an individually selected method of medical rehabilitation in postoperative patients is relevant and timely.

MATERIAL AND METHODS

The developed complex of rehabilitation measures aimed at preventing early postoperative complications was used in 135 patients operated on on the hollow organs of the digestive system. The control group consisted of 23 patients with traditional management of the early postoperative period. By the nature of the surgical pathology, the volume of surgery, and concomitant pathology, the groups were representative. Evaluation of the effectiveness was carried out by comparative analysis of indicators of the functional state of the respiratory system, cardiovascular system, intestines in dynamics and the frequency of complications.

RESEARCH RESULTS AND DISCUSSION

Rehabilitation measures included both drug correction of existing disorders, prevention of predicted complications, and non-drug effects on the restoration of the functional activity of these organs and systems. At the same time, the individual characteristics of the patient with different severity of preoperative systemic changes in these organs and systems were taken into account, which can be defined as a personalized approach to rehabilitation in the early postoperative period. The most vulnerable in the early postoperative period is the respiratory system. Endotracheal anesthesia, which contributes to damage to the tracheal mucosa; residual effect of muscle relaxants; prolonged recumbency, of atrudnyaet excursion of the chest; the presence of an operating wound of the abdominal wall, excluding for a certain time its participation in the respiratory act - all this leads to hypoventilation of the lungs and contributes to the development of hypostatic pneumonia. However, the traditional measures used to restore impaired functions of the respiratory system in the early postoperative period have been developed schematically, are not complex and often do not provide effective prevention of postoperative pneumonia. We have used a developed complex of rehabilitation measures aimed at restoring the function of the respiratory system, which takes into account all the disorders and systemic changes that have arisen after the operation, caused by the COVID-19 virus. The rehabilitation complex was started immediately after the patient came out of anesthesia. A prerequisite for its implementation is adequate pain relief. For an objective assessment of pain, we have proposed a method that allows one to quantify the patient's pain sensations [4] and to carry out their drug correction by individual correction of painkillers. Passive and then active limb movement in a certain direction, exercises targeted load specific muscle groups allows you to quickly neutralize REMAINING th effects of muscle relaxants, restore muscle tone not only limbs, but also the whole body.

To restore the function of the respiratory system, we used a complex of rehabilitation measures, including, in addition to early restoration of the tone of the muscles of the trunk and respiratory excursion of the chest wall, restoration of airway patency and means of preventing pulmonary atelectasis. The criterion for the effectiveness of these measures was the active behavior of the patient in bed by the end of the first day after the operation. So, all patients of the research group during the first day independently changed their body position in bed, turned on their side, raised the lower limbs straightened at the knee joint.

To restore airway patency, a combination of chest wall massage with forced cough with anteroposterior compression of the chest wall was used. The proof of the effectiveness of these funds is the discharge of sputum and the absence of dry wheezing over the trachea and main bronchi. In 96.3% of patients in the experimental group, by the end of the first day, saturation of more than 95% was achieved, while in the control group, this indicator was observed only in 52.17% of patients. From the second day of the postoperative period, the patient was recommended to take a sitting position. From the third day, patients took an upright position with dosed walking, torso bends and squats. In all patients of the experimental group, we were able to restore the function of the respiratory system, prevent pulmonary atelectasis, and the development of postoperative pneumonia. In three patients of the control group (13.04%), who did not take these measures or were performed incompletely, there were complications from the respiratory system in the form of hypostatic pneumonia and pleurisy. One of these patients died of progressive pulmonary heart disease.

Restoration of the functional activity of the cardiovascular system is of great importance in the postoperative period, especially after complex operations and in elderly patients [9,10]. We used a set of physical exercises, which was selected individually and corrected by objective criteria of the functional activity of the cardiovascular system - the pulse rate and its dynamics during exercise according to the readings of the pulse oximeter, the magnitude and dynamics of blood pressure, and, if necessary, by monitoring the electrocardiogram . In the first hours after the operation, active limb movements were performed with an incomplete range at a slow pace. 2-3 hours after the operation, the patients turned their bodies in both directions. From the second day, the patient was transferred to a sitting position for 10 minutes 4-5 times a day. If the condition was satisfactory, the patients were lifted out of bed on the second day.

Restoration of impaired intestinal functions is one of the main tasks of rehabilitation of patients after abdominal operations. The restoration of the disturbed intestinal functions began immediately after the operation. The complex of rehabilitation measures included non-drug and medical measures. For non-drug effects on the restoration of intestinal functions, a gastric tube was used, which was usually wound up during

the operation, or an intubation tube, which during the operation is nasogastricly passed through the lumen of the entire small intestine. The main task of rehabilitation is to reduce the intraluminal pressure in the hollow digestive organs. With adequate anesthesia, it is advisable to actively contract the muscles of the anterior abdominal wall by alternately raising the lower limb straightened in the knee joint. From the second day, under the supervision of the therapist, the patient raises both lower extremities upward, gradually increasing the time of keeping them in this state. From the second day, in the absence of contraindications, the patient is recommended to lift the upper half of the body, taking a sitting or semi-sitting position in bed without using the hands, only by contracting the muscles of the anterior abdominal wall. For prevention of the event, the patients wore a bandage, which increased the tone of the muscles of the abdominal wall and did not interfere with the excursion of the chest wall. The criterion for the effectiveness of such exercises is the active outflow through the probe when they are performed.

The drug component of the rehabilitation of disturbed intestinal functions consists in the appointment from the second day of prokinetics (metaproclamide, cerucal), cholinomimetics (cerucal), hyperosmolar solutions (sorbilact) and hypertensive enemas. The criterion for the effectiveness of such a complex is the appearance of peristalsis, the passage of gases, and the ultimate goal is independent bowel movements [5]. In the main group, using the proposed personalized complex of rehabilitation measures, we managed to restore the functional activity of the intestines in all patients. In the control group, where the complex or not used, or performed only some of its components without objective control, in two patients (8.70%) there was a steady postoperative intestinal paresis developmental dynamic ileus, requiring execution relaparotomies. This indicates that adequate substantiated rehabilitation of impaired intestinal functions in the early postoperative period can prevent the occurrence of complications in the form of dynamic intestinal obstruction, improve the results of treatment of patients, and shorten the duration of their inpatient treatment. Thus, the early use of rehabilitation in the postoperative period to restore the functional activity of the respiratory and cardiovascular system and digestive tract, taking into account the individual patient, performed with the involvement of a multidisciplinary team, allowing lo prevent the patients of the experimental group the occurrence of e complications that contributed rapid recovery of patients. The duration of inpatient treatment of patients in the main group was 8, 2 ± 1.31 days, in the control group - 12.32 ± 2.54 days. There were no lethal cases in the patients of the experimental group; in the control group, one patient (4.35%) died from progressive pulmonary heart failure.

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