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OPTIMAL TREATMENT STRATEGY FOR PATIENTS WITH OBSTRUCTIVE JAUNDICE OF VARIOUS ORIGINS

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ОПТИМИЗАЦИЯ ЛЕЧЕНИЯ БОЛЬНЫХ МЕХАНИЧЕСКОЙ ЖЕЛТУХОЙ РАЗЛИЧНОГО ГЕНЕЗА

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The treatment challenges in patients with obstructive jaundice is one of the most pressing issues in abdominal surgery. Mechanical jaundice, as a complication of underlying disease and decompensation of intercurrent somatic illness – all this has an adverse impact on the overall condition of the patient. The treatment analysis of 150 patients.

The control group included 85 patients with obstructive jaundice of various pathogenesis: in 51 (60.0 %) benign diseases of cholecystopancreatoduodenal region, in 34 (40.0 %) – malignant. The main group consisted of 65 patients, of whom 37 (56.9 %) were benign diseases of cholecystopancreatoduodenal region, in 28 (43.1 %) – malignant. Bile Drainage performed in all patients under ultrasound guidance. In the main group, the authors used patented technique of detoxification of obstructive jaundice, and applied a patented technique of automated and smooth return of bile into the digestive tract during eating. The authors noted an improvement in the results of treatment of patients with obstructive jaundice in the group where composite therapy was used in conjunction with the bile return into the digestive tract.

Key words: obstructive jaundice, detoxification, treatment, biliary decompression, digestive tract

Проблема лечения больных механической желтухой остается одним из актуальных вопросов в абдоминальной хирургии. Механическая желтуха, как осложнение основного заболевания, декомпенсация интеркуррентной соматической патологии – все это отрицательно сказывается на статусе больного. Проведен анализ лечения 150 больных. В контрольную группу включены 85 больных механической желтухой различного генеза: у 51 (60,0 %) были доброкачественные заболевания органов билиопанкреатодуоденальной зоны, у 34 (40,0 %) – злокачественные. Основную группу составили 65 больных, из них у 37 (56,9 %) были доброкачественные заболевания органов билиопанкреатодуоденальной зоны, у 28 (43,1 %) – злокачественные. Дренажирование желчевыводящих путей выполнено всем больным под контролем УЗИ. В основной группе больных применен разработанный и запатентованный авторами способ детоксикации при механической желтухе, а также применено запатентованное устройство автоматического и плавного возврата желчи в пищеварительный тракт во время еды. Авторы отмечают улучшение результатов лечения больных механической желтухой в группе, где применялась комплексная терапия в сочетании с возвратом желчи в пищеварительный тракт.

Ключевые слова: механическая желтуха, детоксикация, лечение, билиарная декомпрессия, пищеварительный тракт

The problem of treating obstructive jaundice till date remains one of the challenges in a clinical surgery [1, 2]. Treatment tactics of patients with obstructive jaundice received a two-stage strategy [2, 3, 12]. At the first stage the conservative measures aimed at minimizing the obstructive jaundice and decompression of the bile ducts. In the second stage, radical or palliative surgery was executed. This tactic helps to reduce the number of postoperative complications by 17 % and mortality to 2.8 % [13].

The main objective of the first stage is treatment of hyperbilirubinemia [7, 14]. In recent years there has been an increased interest in the use of percutaneous transhepatic therapeutic and diagnostic procedures that are performed under ultrasound guidance [8, 15]. However, when using this technique there is bile loss, resulting in dyselectrolytemia, dehydration, disruption in processes of emulsification and absorption of fat, inhibition of coagulation cascade, fibronolysis and kallikrein-kinin system of blood [8, 9].

Conservative treatment of patients with obstructive jaundice includes following approaches: infusion therapy, the introduction of anabolic substances, antibiotic use, enteral nutrition and entero-sorption [4, 5, 6]. Existing local and international literature, the formula for calculating the daily volume of infusion therapy typically takes into account the total body mass, sodium index, hemoglobin, urea, glucose level in the blood. Blood bilirubin level is a sensitive marker during infection in diseases of cholecystopancreatoduodenal region, complicated obstructive jaundice, however, it is now not taken into account in existing formulas.

The aim of this study was to improve the prognosis of treatment of patients with obstructive jaundice on the basis of improving the method of detoxification and the use of new methods for the return of bile into the digestive tract.

Material and Methods. In total 150 patients treated and studied. The control group included 85 patients with obstructive jaundice: in 51 (60.0 %) were benign diseases in cholecystopancreatoduodenal region, in 34 (40.0 %) – malignant diseases. Men were 43 (50.6 %), women – 42 (49.4 %), and age older than 60 years were 55 (64.7 %) patients. Before starting the first phase of treatment, the average value of bilirubin was 324.2 ± 3.4 mmol/l in the

control group. The severity of jaundice according to El Halperin scale [10, 11] averaged 10.9 points (severe).

Infusion therapy in the control group of patients with obstructive jaundice was intravenous infusion therapy of 1.5–3 l/day, while maintaining a diuresis of 1.5–2.5 l/day. The dose was calculated according to individual body weight (20–40 ml/kg/day). Level of blood bilirubin level was not taken into account while calculating infusion dose.

In the control group, in 59 (69.4 %) patients, biliary decompression was performed under ultrasound guidance and in 26 (20.6 %) open/laparotomy drainage of biliary tract was performed. Taking into account the important role bile plays in digestion, bacterial contamination when performing the open biliary decompression, bile in the control group was returned back to intestine tract through the thin nasogastric tube (3.5 %) or per-oral (96.5 %), which resulted in discomfort, vomiting, which often resulted in patients stopping the per-oral intake of bile.

After detoxification therapy in combination with decompression of the biliary tract, blood bilirubin decreased to 267.8 ± 3.2 mmol/l, and severity of jaundice was 8.8 points (moderate). Before discharge from the hospital, the average value of bilirubin was 102.4 ± 2.8 mmol/l, severity of jaundice – 7.1 points (moderate). Mean hospital stay was 16 days. The patient was discharged with recommendations of taking per-oral intake of bile, continued treatment at the place of residence, repeat consultation for second stage of treatment after blood levels of bilirubin reduces up to 60–70 mmol/l.

The main group consisted of 65 patients. In 37 (56.9 %) were benign diseases of cholecystopancreatoduodenal region, in 28 (43.1 %) – malignant diseases. Men were 38 (58.5 %), women – 27 (41.5 %). On the day of admission to the first stage of treatment in this experimental group, average value of blood bilirubin was 395.8 ± 3.7 mmol/l and severity of jaundice – 11.3 points (severe).

Biliary tract decompression/drainage was performed to all patients under ultrasound guidance. After biliary decompression, the mean value of the blood of bilirubin was 221.2 ± 3.1 mmol/l and severity of jaundice – 7.9 points (average).

In the main group we used detoxification method for obstructive jaundice, which is developed by us (Patent RF

№ 2505321, 2014). It was observed that the daily dose of infusion therapy is directly dependent on plasma osmolality, bilirubin blood and total body weight of the patient. In the control group, calculation for the daily dose of infusion therapy was calculated using a formula developed by us:

$$V = \frac{(\text{Plasma Osmolality} + \text{Blood Bilirubin Value}) \div 15000 \times \text{Body Weight}}{L}$$

where: V – daily dose of infusion therapy (L); Plasma osmolality (mmol/l) = Na (mmol/l) × 1,86 + Glucose (mmol/l) + Urea (mmol/l) + 10 (mOsm/l); bilirubin, blood (mmol/l); the patient's body weight (kg); 15.000 – the number found empirically.

Infusion dose was subjected to correction in real time, depending on fresh blood test results. Reduction in bilirubin leads to reduction in infusion therapy dose as well. To eliminate the side effects of per-oral bile intake in patients, the experiment group used a new device for the return of bile into the digestive tract (Patent RF № 137670, 2014).

Device for the return of bile into the digestive tract in patients with obstructive jaundice (Fig. 1) consists of a biliary drainage tube (1) mounted percutaneously under ultrasound guidance and percutaneous gastrostomy tube (2), placed endoscopically. They are interconnected by a tube (3) having an anti-reflux valve (4). Roller clamp (5) and a silicone balloon (6) placed in series between the biliary drainage (1) and a percutaneous endoscopic gastrostomy (2). The silicone balloon (6) can enter the tube (3) from biliary drainage (1) and tube (3) from percutaneous endoscopic gastrostomy (2). Antireflux valve (4) placed for bile flow along the tube (3) only in the direction of the digestive tract. Roller clamp (5) is set for easy regulation (3) speed of bile flow through a tube from drop to maximum flow, and a silicone balloon (6) – for storing and measured return of bile into the digestive tract during eating.

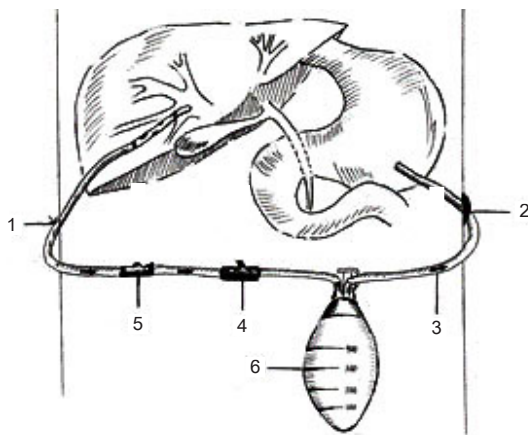


Fig. 1. Device for the return of bile into the digestive tract in patients with obstructive jaundice after percutaneous trans-hepatic bile duct decompression and endoscopic mini-gastrostomy

The disadvantages are non-automatic return of bile into the digestive tract and an unhandy model, which is inconvenient for both the patient and medical staff.

We have improved the previous model with a new device for automatic return of bile into the digestive tract in patients with obstructive jaundice (Patent № 156334, 2015). The new device is different from the previous installation of an elastomer pump (4), filter (7) and stop regulator for the bile flow (8). Elastomer pump is installed in front of biliary drainage (1) and consists an elastic membrane and antireflux valve to fill the pump (5) allowing the evacuation of bile in the same direction with the introduction of the necessary volume of bile by uniform ejection by reducing the internal elastic membrane, and filter (7) and bile flow rate limiter (8) connected in series

to a gastrostomy (2) to automatic and smooth return of bile to the digestive tract during eating (Fig. 2).

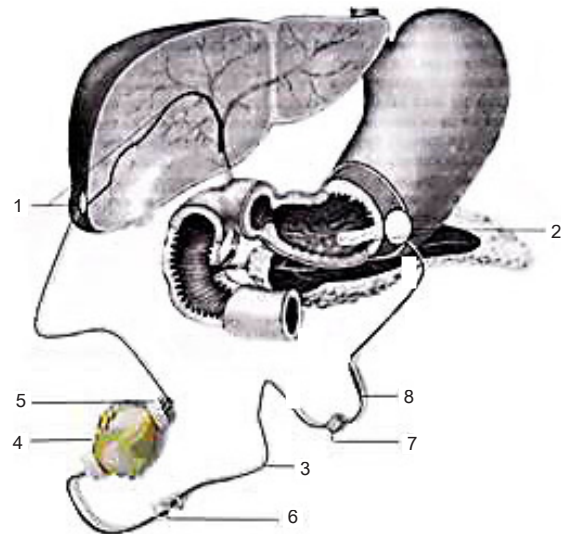


Fig. 2. The device for the automatic return of bile into the digestive tract in patients with obstructive jaundice after percutaneous trans-hepatic bile duct decompression and endoscopic mini-gastrostomy

Before discharge from the hospital blood level of bilirubin in the main group was 88.7 ± 2.1 mmol/l, the severity of jaundice – 5.7 points (mild), the average hospital stay – 11 days. Patients were recommended for repeat consultation for the second phase of treatment after reduction of blood bilirubin levels to 60–70 mkmol/l.

Results and Discussion. Biliary decompression prior to admission to the second phase of treatment, patients in the control group lasted an average of 6 weeks. Patients in the main group started the second stage of treatment after an average of 2 weeks with severity of jaundice – 5 points (mild).

Improved results of treatment in the study group achieved through the optimization of the complex therapeutic measures carried out at all stages of treatment, reducing the incidence of postoperative complications from 11.8 % in the control group to 7.6 % – in the main group.

A comparative evaluation of the patient on the severity of jaundice by E. I. Galperin showed that the main group patients during discharge had mild jaundice, and in the control group patients – average. According to the classification of the severity of jaundice by E. I. Galperin likelihood of an unfavorable outcome of the disease in patients in the control group was 10.5 % and in the main group – 0 %.

The average length of stay in hospital patients of the main group was 11 days, the control group – 16. Pre-operative hospital stay in the main group averaged 1.5 days, in the control group – 1.9. The postoperative hospital stay in the main group was 9.5 days, the control group – 14.1.

Conclusions. Minimal trauma, eliminating the possibility of infection of the biliary tract, slow and smooth decompression of the bile ducts, reducing length of hospitalization, minimizing complications and improving the quality of life of patients – the benefits of an integrated treatment of patients with obstructive jaundice in the experimental group with the use of new methods of detoxification and the return of bile into the digestive tract, that allows us to recommend the proposed optimization method to wider application in complex treatment of patients with obstructive jaundice of various pathogenesis.

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ACTINOMYCOSIS IN COLOPROCTOLOGY

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АКТИНОМИКОЗ В КОЛОПРОКТОЛОГИИ

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Actinomycosis is a specific chronic infectious disease. Currently, actinomycosis common in about 6.0–7.5 % of patients with inflammatory diseases of pararectal and gluteal areas. There are only a few scientific articles describing the observations of visceral actinomycosis in clinical cases. Descriptions of sacrococcygeal and perianal