SURGICAL APPROACH FOR TREATMENT OF OBSTRUCTIVE JAUNDICE

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Introduction: Obstructive jaundice (OJ) patients account for one of the most challenging categories of patients with abdominal pathologies with a share in the emergency surgery of 2.6-23.7% [1, 2]. Along with significant advancement in treatment of OJ patients, biliary decompression is often accompanied by development of post-operative liver failure [3]. Biliary surgery today sustains the trend of multi-stage minimally invasive interventions considering the severity of OJ patients' condition [4, 5]. Yet, gaining an experience, surgeons have been increasingly using the one-stage treatment approach [6, 7]. However, the pivotal question of biliary surgery remains a choice of bile ducts decompression technique for patients with different duration of OJ and bilirubin count [8].

The aim: To study the efficacy of minimally invasive and open bile ducts decompression techniques for treatment of OJ patients with due account to OJ duration and bilirubin count.

Materials and methods: We analyzed the results of surgical treatment of 250 patients with OJ. Young, middle-age, elderly, senile, and long-living individuals accounted to 32 (12.8%), 68 (27.2%), 88 (35.2%), 56 (22.4%) and 6 (2.4%) patients, accordingly. The average age was 52 ± 6.0 years. 98 (39.2%) had OJ duration up to 7 days, 62 (24.8%) - 7-14 days, 30 (12.0%) - 14-21 days, 35 (14.0%) - 21-28 days, and 25 (10.0%) – over 28 days. The average duration of OJ was 19 ± 3.5 days.

Benign OJ observed in 210 (84.0%) patients accounted for choledocholithiasis - 149 (59.6%), Myrizzi`s syndrome - 16 (6.4%), stricture of common bile duct (CBD) - 8 (3.2%), stenotic papillitis - 19 (7.6%), chronic fibrous pancreatitis - 10 (4.0%), cyst of the pancreatic head - 5 (2.0%), duodenal ulcer (DU) with penetration into the hepatoduodenal ligament (HDL) - 3 (1.2%) cases. Malignant OJ genesis in 40 (16.0%) patients accounted for the pancreas head cancer - 23 (9.2%), tumor of the major duodenal papilla (MDP) - 5 (2.0%), bile ducts cancer - 8 (3.2%), HDL-invading gallbladder cancer - 2 (0.8%), and other malignancies spreading in porta hepatic - 2 (0.8%).

The patients were assigned to two groups: Group I (n = 100) consisting of young and middle-age patients, and Group II (n = 150) consisting of elderly, senile and long-living patients.

Results and discussion: 38 (15.2%) Group I patients with hyperbilirubinemia below 200 μmol/l, OJ duration up to 14 days, compensated or subcompensated concomitant pathology with no signs of purulent cholangitis and biliary pancreatitis underwent single-stage minimally invasive surgical interventions.

98 (39.2%) Group II patients with bilirubin count over 200 μmol/l, OJ duration over 14 days, concomitant diseases in the stage of decompensation, complicated by OJ purulent cholangitis and biliary pancreatitis were subjected to two-stage minimally invasive surgical interventions.

114 (45.6%) Groups I and II patients were subjected to one-stage open surgical interventions on bile ducts, when it was impossible to eliminate OJ by minimally invasive methods.

No post-decompression liver dysfunction was observed in Group I patients after single-stage minimally invasive surgical interventions. Because, surgeries were performed in patients with bilirubin count below 200 μmol/l at the early OJ stages (up to 14 days) not burdened by complications and decompensated comorbidities.

No significant functional disbalance of the liver was observed in Group II patients following two-stage minimally invasive surgical interventions. The two-stage approach involved endoscopic transpapillary interventions at the first stage and laparoscopic cholecystectomy at the second stage. The interval between minimally invasive interventions was 5-14 days.

In patients of different age groups, the valvular mechanism ensured a moderate rate of bile ducts decompression while forming areflux biliodigestive anastomoses. External biliary decompression was accompanied by a rapid decrease of bile ducts pressure, which led to post-decompression dysfunction of the liver and required dosed decompression of the bile ducts for 7-10 days.

Complications following minimally invasive surgery (n = 136) in patients of both age groups were observed in 7 (5.2%) cases, including clipping the common hepatic duct - 1 (0.7%), cystic duct stump inefficiency - 2 (1.5%), MDP bleeding - 2 (1.5%), and stent obstruction - 2 (1.5%). No lethal cases were registered.

Post-open surgery complications (n = 114) in patients of different age groups were observed in 13 (11.4%) cases: CBD damage - 1 (0.9%), cystic duct stump inefficiency - 2 (1.7%), CBD suture insufficiency - 3 (2.6%), biliodigestive anastomosis failure - 3 (2.6%), external biliary fistula - 2 (1.7%), and cholemic bleeding - 2 (1.7%). 2 (1.7%) OJ patients died for transmural myocardial infarction.

Conclusions:

1. The use of minimally invasive surgical interventions for treatment of OJ patients of different ages reduces the incidence of postoperative complications by 6.2% ($p < 0.05$).

2. Two-stage surgical approach to treatment of OJ patients of senior age groups is a priority option. Single-stage correction is reasonable to use for young and middle-aged patients with bilirubin count under 200 μmol/l, OJ duration less than 14 days, compensated or subcompensated comorbidities not burdened by purulent cholangitis and biliary pancreatitis.

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