

O022 - Abdominal Cavity and Abdominal Wall

SHORT-TERM RESULTS OF CYTOREDUCTIVE LAPAROSCOPIC OPERATIONS FOR PATIENTS WITH METASTATIC COLORECTAL CARCINOMA

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Aim: to determine the role of cytoreductive laparoscopic surgery in combined treatment for patients with synchronous metastatic colorectal carcinoma.

Methods: the cytoreductive primary tumor removal, even in patients with synchronous multiple metastases allows to increase two-year survival up to 18.2 % in comparison with symptomatic operations. Adjuvant chemotherapy after primary tumor removal may improve the two-year survival up to 52.7 %. The laparoscopic precision technique may minimize the surgical trauma and could help to optimize treatment strategy: to determine the treatment strategy and to expand the indications for cytoreductive operations, especially in patients burdened with co morbidity. Since 2010 year was performed 23 laparoscopic operations in patients with synchronous metastases from colorectal carcinoma and different co morbidities at the age of 63–79. The depth of invasion of primary tumor T3 was registered in 15 and T4–5 patients. Metastases in one organ (M1a) were diagnosed in 13, two or more organs (M1b)—7 patients. Histological examination by the removal organs showed that the metastases to the regional lymph nodes were detected in 10 patients: N1—8 patients; N2—2 patients. 13 patients underwent laparoscopic cytoreductive resection with primary tumor removal: right hemicolectomy—3, left hemicolectomy—2, sigmoid colectomy—6, low rectal resection—1, low anterior resection with sigma—anal anastomosis—1 patient. In all cases the primary anastomosis had done. In one case atypical liver resection was performed simultaneously. In three patients diagnostic laparoscopy revealed a total carcinomatosis, it was the reason for conversion for laparotomy. Seven patients underwent the symptomatic operations by laparoscopic access: colostomy underwent—6, bypass formed in one patient. Stapled anastomoses ‘end to end’ were formed in 9; hand—assisted ‘side to side’ in three patients, sigma-anal anastomosis—1 patient. The anastomotic leakage was noted only in one patient—stapled anastomosis after low rectal resection without preventive colostomy. In one patient—the suppurative of minilaparotomy wound was admitted.

Conclusions: laparoscopic operations have the same efficacy in comparison with open surgery and may be included in combined treatment for patients with synchronous metastases of colorectal carcinoma.

O023 - Abdominal Cavity and Abdominal Wall

INTRAPERITONEAL ADHESIONS AFTER OPEN OR LAPAROSCOPIC ABDOMINAL PROCEDURE: AN EXPERIMENTAL STUDY IN THE RAT

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Background: Adhesion formation is common after abdominal surgery. The incidence and severity of adhesion formation following open or laparoscopic surgery remain controversial. The role of CO₂ pneumoperitoneum is also largely discussed. This study aimed to compare adhesion formation following peritoneal injury by electrocoagulation performed through open or laparoscopic procedures in a rat model.

Methods: Sixty male rats were randomized to undergo a 1.5 cm peritoneal injury with unipolar cautery under general anesthesia: open surgery (group A, n = 20), laparoscopic surgery with CO₂ pneumoperitoneum (group B, n = 20) and laparoscopic surgery with air pneumoperitoneum (group C, n = 20). Duration of the procedures was fixed at 90 min in all groups, and pneumoperitoneum pressure at 10 mmHg. Ten days later, the animals underwent a secondary laparotomy to score peritoneal adhesions using qualitative and quantitative parameters.

Results: Forty-five rats developed at least one adhesion, respectively 95 % in group A, 83 % in group B and 55 % in group C (P < 0.01; Group C vs. Group A, P < 0.01). According to number, thickness, tenacity, vascularization, extent, type, and grading according to Zühkle classification, no significant difference was observed between groups A and B. The distribution of adhesions after open surgery was significantly different than after laparoscopic surgery (<0.001). Interestingly, group C rats developed significantly less adhesions at the traumatized site, and their adhesions had less severe qualitative scores compared to open surgery (P < 0.01).

Conclusions: In this animal model, CO₂ laparoscopic surgery did not decrease the formation of postoperative adhesion, compared to open surgery. The difference with the animals operated with air pneumoperitoneum emphasizes the role of CO₂ in peritoneal injury leading to adhesion formation.

O024 - Abdominal Cavity and Abdominal Wall

TRANSABDOMINAL PREPERITONEAL (TAPP) VERSUS TOTALLY EXTRAPERITONEAL (TEP) REPAIR OF INGUINAL HERNIA: A META-ANALYSIS OF RANDOMIZED STUDIES

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Aims: To comparatively evaluate the outcomes of laparoscopic transabdominal (TAPP) and endoscopic preperitoneal (TEP) inguinal hernia repair.

Methods: A meta-analysis of randomized clinical trials published up to July 2011 comparing TAPP with TEP was undertaken. Primary outcome measure was the relative incidence of hernia recurrence, whereas secondary outcome measures included in-hospital morbidity, long-term pain or sensory deficits, operative time, early postoperative pain, length of hospitalization and recovery time.

Results: Six studies comprising 426 patients with 428 inguinal hernia defects and mean follow-up of 33.7 months were identified. A shorter recovery time was found for TAPP in comparison to TEP [difference in means -0.29, 95% confidence interval (CI) -0.71 to 0.07; P = 0.017], although the length of hospital stay was similar in the two treatment arms (difference in means -0.07, 95% CI -0.29 to 0.11; P = 0.449). No differences were found with regard to the incidence of hernia recurrence [odds ratio (OR) 1.03, 95% CI 0.36–2.94; P = 0.956], in-hospital morbidity (OR 1.5, 95% CI 0.8–2.9; P = 0.184), long-term pain or sensory deficits (OR 0.5, 95% CI 0.2–1.2; P = 0.104) and operative time (difference in means -3.37, 95% CI -18.03 to 11.30; P = 0.653).

Conclusions: Current evidence suggests similar operative results of endoscopic and laparoscopic inguinal hernia repair. Randomized trials with a longer-term follow-up are needed in order to assess the effect of each approach on prevention of recurrence.

O025 - Abdominal Cavity and Abdominal Wall

RANDOMIZED COMPARISON OF LAPAROSCOPIC INGUINAL HERNIA REPAIR USING HEAVY WEIGHT AND LIGHT WEIGHT MESHES

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Background: The comparative advantages of heavy weight versus light weight meshes have not been well documented. This randomized trial was conducted with the aim to compare the factors related to chronic groin pain and quality of life after lightweight and heavy-weight mesh placement in laparoscopic inguinal hernia repair.

Materials and Methods: 110 patients were randomized into two groups, 55 patients each in heavyweight mesh (Group I) and lightweight mesh (Group II). Adult patients with simple, uncomplicated, unilateral or bilateral inguinal hernia were included. The heavyweight mesh used was a preshaped polypropylene mesh with a weight of 80–85 g/m² and pore size of less than 1 mm. The lightweight mesh used was a lightweight polypropylene mesh having weight of 30–45 g/m² and a pore size of >2 mm.

Intra-operative variables and postoperative complications were recorded. Pain was assessed with Visual analogue scale preoperatively as well as postoperatively at 24 h, 1 week, 6 weeks; 3, 6 and 12 months. Quality of life was assessed with Short Form—36 version 2 (SF 36v2) preoperatively and postoperatively at 3 months follow up. p value <0.05 was considered significant.

Results: Out of 110 patients randomized, 102 completed the minimum follow up of 3 months, 52 in HW mesh group and 50 in LW mesh group. The demographic and clinical profiles, intraoperative and postoperative complications were similar. The early postoperative convalescence was better in LW mesh group in terms of early return to walking (p = 0.01) and driving (p = 0.05). The incidence and severity of early postoperative as well as chronic groin pain and quality of life was similar in both the groups. Chronic groin pain had a significant correlation with duration of symptoms, pre-operative pain and post-operative pain at 6 weeks.

Conclusion: Outcome following laparoscopic repair of inguinal hernia using HW and LW mesh are comparable in the short term as well as long term. The incidence of acute or chronic groin pain, quality of life and resumption to work was similar in both the groups.