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Algemeen

Lagere urineoutput na abdominale chirurgie is acceptabel en voorkomt volume-overload

Low Versus Standard Urine Output Targets in Patients Undergoing Major Abdominal Surgery: A Randomized Noninferiority Trial, Puckett, Jevon R, Annals of Surgery; May 2017 – Volume 265 – Issue 5 – p 874-881. Pubmedid 27763895

OBJECTIVE: To determine whether a *low* perioperative minimum *urine output* target is safe and fluid sparing when compared with the *standard* target. BACKGROUND: A minimum hourly *urine output* of 0.5 mL/kg is a key target guiding perioperative fluid therapy. Few data support this *standard* practice, which may contribute to perioperative fluid overloading.

METHODS: We *randomized patients* without significant risk factors for acute kidney injury *undergoing* elective colectomy to a minimum *urine output* target of 0.2 mL/kg/h (*low* group) or 0.5 mL/kg/h (*standard* group) from induction of anesthesia until 8 AM 2 days after *surgery*. Maintenance fluids were standardized and additional fluids administered to achieve the *targets*. Primary outcome was *noninferiority* for *urine* neutrophil gelatinase-associated lipocalin on the day after *surgery*.

RESULTS: Between November 21, 2011 and July 11, 2013, 40 participants completed the study. The *low* group received 3170 mL (95% confidence interval 2380-3960) intravenous fluids *versus* 5490 mL (95% confidence interval 4570-6410) in the *standard* group (P = 0.0004), and was noninferior for neutrophil gelatinase-associated lipocalin [14.7 µg/L (interquartile range 7.60-28.9) vs 18.4 µg/L (interquartile range 8.30-21.2); Pnoninferiority = 0.0011], serum cystatin C (Pnoninferiority < 0.0001), serum creatinine (Pnoninferiority = 0.0004), and measured glomerular filtration (Pnoninferiority = 0.0003). Effective renal plasma flow increased in both groups after *surgery*, and more in the *standard* group (Pnoninferiority = 0.125).

CONCLUSIONS: A perioperative *urine output* target of 0.2 mL/kg/h is noninferior to the *standard* target of 0.5 mL/kg/h and results in a large intravenous fluid sparing. This target should be adopted in surgical *patients* without significant kidney injury risk factors.

Coloproctologie

Risico op irradicale resecties hoger in laparoscopische rectumchirurgie hoger dan in open rectumchirurgie

Pathologic Outcomes of Laparoscopic vs Open Mesorectal Excision for Rectal Cancer: A Systematic Review and Meta-analysis, Aleix Martínez-Pérez, JAMA Surg. 2017;152(4). Pubmedid 28196217

IMPORTANCE: Rectal resection with mesorectal excision is the mainstay treatment for rectal cancer.

OBJECTIVE: To review and analyze the evidence concerning the pathologic outcomes of laparoscopic (LRR) vs open (ORR) rectal resection for rectal cancer.

DATA SOURCES :The Cochrane Central Register of Controlled Trials, MEDLINE (through PubMed), EMBASE, Scopus databases, and clinicaltrials.gov were searched for randomized clinical trials (RCTs) comparing LRR vs ORR.

STUDY SELECTION: Only RCTs published in English from January 1, 1995, to June 30, 2016, that compared LRR with ORR for histologically proven rectal cancer in adult patients and reported pathologic outcomes (eg, positive circumferential resection margin, and complete mesorectal excision) were eligible for inclusion. Of 369 records screened, 14 RCTs were selected for the qualitative and quantitative analyses.

DATA EXTRACTION AND SYNTHESIS: Two independent reviewers performed the study selection and quality assessment. Random-effects models were used to summarize the risk ratio (RR) and mean differences.

MAIN OUTCOMES AND MEASURES: The rate of positive circumferential resection margin (CRM), defined as 1 mm or less from the closest tumor to the cut edge of the tissue, and the quality of mesorectal excision (complete, nearly complete, or incomplete).

RESULTS: The meta-analysis included 14 unique RCTs with 4034 unique patients. Of 2989 patients undergoing rectal resection, a positive CRM was found in 135 (7.9%) of 1697 patients undergoing LRR and 79 (6.1%) of 1292 patients undergoing ORR (RR, 1.17; 95% CI, 0.89-1.53; P = .26; I2 = 0%) in 9 studies. A noncomplete (nearly complete and incomplete) mesorectal excision was reported in 179 (13.2%) of 1354 patients undergoing LRR and 104 (10.4%) of 998 patients undergoing ORR (RR, 1.31; 95% CI, 1.05-1.64; P = .02; I2 = 0%) in 5 studies. The distal resection margin involvement (RR, 1.12; 95% CI, 0.34-3.67; P = .86), the mean number of lymph nodes retrieved (mean difference, 0.05; 95% CI, −0.77 to 0.86; P = .91), the mean distance to the distal margin (mean difference, 0.01 cm; 95% CI, −0.12 to 0.15 cm; P = .87), and the mean distance to radial margins (mean difference, −0.67 mm; 95% CI, −2.16 to 0.83 mm; P = .38) were not significantly different between LRR and ORR. The risk for bias was assessed as low in 10 studies, high in 3, and unknown in 1. The overall quality of the evidence emerging from the literature was rated as high.

CONCLUSIONS AND RELEVANCE: Based on the available evidence, the risk for achieving a noncomplete mesorectal excision is significantly higher in patients undergoing LRR compared with ORR. These findings question the oncologic safety of laparoscopy for the treatment of rectal cancer. However, long-term results of the ongoing RCTs are awaited to assess whether these pathologic results have an effect on disease-free and overall patient survival.

Upper GI

Ruimte voor verbetering in upperGI chirurgie in Nederland: merendeel patienten haalt geen ‘textbook outcome’

Textbook outcome as a composite measure in oesophagogastric cancer surgery

L. A. D. Busweiler, the Dutch Upper Gastrointestinal Cancer Audit (DUCA) group. BJS, May 2017 – Volume 104 – Issue 6, pages 760-768. Pubmedid

BACKGROUND: Quality assurance is acknowledged as a crucial factor in the assessment of oncological surgical care. The aim of this study was to develop a composite measure of multiple outcome parameters defined as 'textbook outcome', to assess quality of care for patients undergoing oesophagogastric cancer surgery.

METHODS: Patients with oesophagogastric cancer, operated on with the intent of curative resection between 2011 and 2014, were identified from a national database (Dutch Upper Gastrointestinal Cancer Audit). Textbook outcome was defined as the percentage of patients who underwent a complete tumour resection with at least 15 lymph nodes in the resected specimen and an uneventful postoperative course, without hospital readmission. Hospital variation in textbook outcome was analysed after adjustment for case-mix factors.

RESULTS: In total, 2748 patients with oesophageal cancer and 1772 with gastric cancer were included in this study. A textbookoutcome was achieved in 29·7 per cent of patients with oesophageal cancer and 32·1 per cent of those with gastric cancer.
Adjusted textbook outcome rates varied from 8·5 to 52·4 per cent between hospitals.
The outcome parameter 'at least 15 lymph nodes examined' had the greatest negative impact on a textbook outcome both for patients with oesophageal cancer and for those with gastric cancer.

CONCLUSION: Most patients did not achieve a textbook outcome and there was wide variation between hospitals.

HPB

Ziekenhuisvolume geassocieerd met betere uitkomsten van patienten die een pancreaticoduodenectomie ondergaan

Defining a Hospital Volume Threshold for Minimally Invasive Pancreaticoduodenectomy in the United States. Mohamed Abdelgadir Adam. JAMA Surg. 2017;152(4):336-342.Pubmedid 28030713

IMPORTANCE: There is increasing interest in expanding use of minimally invasive pancreaticoduodenectomy (MIPD). This procedure is complex, with data suggesting a significant association between hospital volume and outcomes.

OBJECTIVE: To determine whether there is an MIPD hospital volume threshold for which patient outcomes could be optimized.

DESIGN, SETTING, AND PARTICIPANTS:Adult patients undergoing MIPD were identified from the Healthcare Cost and Utilization Project National Inpatient Sample from 2000 to 2012. Multivariable models with restricted cubic splines were used to identify a hospital volume threshold by plotting annual hospital volume against the adjusted odds of postoperative complications. The current analysis was conducted on August 16, 2016.

MAIN OUTCOMES AND MEASURES: Incidence of any complication.

RESULTS: Of the 865 patients who underwent MIPD, 474 (55%) were male and the median patient age was 67 years (interquartile range, 59-74 years). Among the patients, 747 (86%) had cancer and 91 (11%) had benign conditions/pancreatitis. Overall, 410 patients (47%) had postoperative

complications and 31 (4%) died in-hospital. After adjustment for demographic and clinical characteristics, increasing hospital volume was associated with reduced complications (overall association P < .001); the likelihood of experiencing a complication declined as hospital volume increased up to 22 cases per year (95% CI, 21-23). Median hospital volume was 6 cases per year (range, 1-60). Most patients (n = 717; 83%) underwent the procedure at low-volume (≤22 cases per year) hospitals. After adjustment for patient mix, undergoing MIPD at low- vs high-volume hospitals was significantly associated with increased odds for postoperative complications (odds ratio, 1.74; 95% CI, 1.03-2.94; P = .04).

CONCLUSIONS AND RELEVANCE: Hospital volume is significantly associated with improved outcomes from MIPD, with a threshold of 22 cases per year. Most patients undergo MIPD at low-volume hospitals. Protocols outlining minimum procedural volume thresholds should be considered to facilitate safer dissemination of MIPD.

Profylactische abdominale drainage in pancreaschirurige geeft geen betere resultaten

Meta-analysis of prophylactic abdominal drainage in pancreatic surgery. F. J. Hüttner, BJS, May 2017 – Volume 104 – Issue 6, pages 660-668. Pubmedid 28318008

BACKGROUND: Intra-abdominal drains are frequently used after pancreatic surgery whereas their benefit in other gastrointestinal operations has been questioned. The objective of this meta-analysis was to compare abdominal drainage with no drainage after pancreatic surgery.

METHODS: PubMed, the Cochrane Library and Web of Science electronic databases were searched systematically to identify RCTs comparing abdominal drainage with no drainage after pancreatic surgery. Two independent reviewers critically appraised the studies and extracted data. Meta-analyses were performed using a random-effects model. Odds ratios (ORs) were calculated to aggregate dichotomous outcomes, and weighted mean differences for continuous outcomes. Summary effect measures were presented together with their 95 per cent confidence intervals.

RESULTS: Some 711 patients from three RCTs were included. The 30-day mortality rate was 2·0 per cent in the drain group versus 3·4 per cent after no drainage (OR 0·68, 95 per cent c.i. 0·26 to 1·79; P = 0·43). The morbidity rate was 65·6 per cent in the drain group and 62·0 per cent in the no-drain group (OR 1·17, 0·86 to 1·60; P = 0·31). Clinically relevant pancreatic fistulas were seen in 11·5 per cent of patients in the drain group and 9·5 per cent in the no-drain group. Reinterventions, intra-abdominal abscesses and duration of hospital stay also showed no significant difference between the two groups.

CONCLUSION: Pancreatic resection with, or without abdominal drainage results in similar rates of mortality, morbidity and reintervention.

Leverchirurgie

Postoperatieve leverischemie geassocieerd met recidieven en slechtere overleving na leverresectie in patienten met een hepatocellulair carcinoom

Association of Remnant Liver Ischemia With Early Recurrence and Poor Survival After Liver Resection in Patients With Hepatocellular Carcinoma. Jai Young Cho; JAMA Surg. 2017;152(4):386-392. Pubmedid 28052154

IMPORTANCE: The remnant liver after hepatectomy may have inadequate blood supply, especially following nonanatomical resection or vascular damage.

OBJECTIVE: To evaluate whether remnant liver ischemia (RLI) may have an adverse effect on long-term survival and morbidity after liver resection in patients with hepatocellular carcinoma.

Design, Setting, and Participants This study was a retrospective analysis at Seoul National University Bundang Hospital. Remnant liver ischemia was graded on postoperative computed tomographic scans in 328 patients who underwent hepatectomy for hepatocellular carcinoma between January 1, 2004, and December 31, 2013. Main Outcomes and Measures Remnant liver ischemia was defined as reduced or absent contrast enhancement during the venous phase. Remnant liver ischemia was classified as minimal (none or marginal) or severe (partial, segmental, or necrotic).

Results Among 328 patients (252 male and 76 female; age range, 26-83 years [mean age, 58.2 years]), radiologic signs of severe RLI were found in 98 patients (29.9%), of whom 63, 16, and 19 had partial, segmental, or necrotic RLI, respectively. These patients experienced more complications and longer hospital stay than patients with minimal RLI. Preoperative history of transarterial embolization (odds ratio [OR], 1.77; 95% CI, 1.02-3.03; P = .04), use of the Pringle maneuver (OR, 1.96; 95% CI, 1.08-3.58; P = .03), and longer operative time (OR, 1.003; 95% CI, 1.002-1.005; P < .001) were independent risk factors for severe RLI. Early recurrence rates within 6 (60.2% vs 9.6%) or 12 (79.6% vs 18.7%) months after hepatectomy were higher in patients with severe RLI than in patients without RLI (P < .001). Severe remnant liver ischemia was an independent risk factor for overall survival (OR, 6.98; 95% CI, 4.27-11.43; P < .001) and disease-free survival (OR, 5.15; 95% CI, 3.62-7.35; P < .001).

Conclusions and Relevance Preventive management and technical refinements in hepatectomy are important to decrease the risk of RLI and to improve survival of patients with hepatocellular carcinoma.

Goede uitkomsten laparoscopische leverresectie posterosuperieure segmenten

Outcome after laparoscopic and open resections of posterosuperior segments of the liver
V. Scuderi. BJS, May 2017 – Volume 104 – Issue 6, pages 751-759. Pubmedid 28194774

BACKGROUND: Laparoscopic resection of posterosuperior (PS) segments of the liver is hindered by limited visualization and curvilinear resection planes. The aim of this study was to compare outcomes after open and laparoscopic liver resections of PS segments

METHODS: Patients who underwent minor open liver resection (OLR)
and laparoscopic liver resection (LLR) between 2006 and 2014 were identified from the institutional databases of seven tertiary referral European hepatobiliary surgical units. Propensity score-matched analysis was used to match groups for known confounders. Perioperative outcomes including complications were assessed using the Dindo-Clavien classification, and the comprehensive complication index was calculated. Survival was analysed with the Kaplan-Meier method.

RESULTS: Some 170 patients underwent OLR and 148 had LLR. After propensity score-matched analysis, 86 patients remained in both groups. Overall postoperative complication rates were significantly higher after OLR compared with LLR: 28 versus 14 per cent respectively (P = 0·039). The mean(s.d.) comprehensive complication index was higher in the OLR group, although the difference was not statistically significant (26·7(16·6) versus 18·3(8·0) in the LLR group; P = 0·108). The mean(s.d.) duration of required analgesia and the median (range) duration of postoperative hospital stay were significantly shorter in the LLR group: 3·0(1·1) days versus 1·6(0·8) days in the OLR group (P < 0·001), and 6 (3-44) versus 4 (1-11) days (P < 0·001), respectively. The 3-year recurrence-free survival rates for patients with hepatocellular carcinoma (37 per cent for OLR versus 30 per cent for LLR; P = 0·534) and those with colorectal liver metastases (36 versus 36 per cent respectively; P = 0·440) were not significantly different between the groups.

CONCLUSION: LLR of tumours in PS segments is feasible in selected patients. LLR is associated with fewer complications and does not compromise survival compared with OLR.

Bariatrische chirurgie

Gastric bypass geassocieerd met lager risico en verbeterde uitkomsten in patienten met psoriasis en artritis psoriatica

Incidence and Prognosis of Psoriasis and Psoriatic Arthritis in Patients Undergoing Bariatric Surgery Alexander Egeberg. JAMA Surg. 2017;152(4):344-349.Pubmedid 28002543

IMPORTANCE: Psoriasis and obesity are strongly linked, and weight loss appears to improve psoriasis symptoms and severity. Bariatric surgery may induce remission of psoriasis, but data are limited to small studies and case series.

OBJECTIVE: To examine the incidence and prognosis of psoriasis and psoriatic arthritis in patients undergoing bariatric surgery (gastric bypass and gastric banding).

DESIGN, SETTING, AND PARTICIPANTS: This population-based cohort study used individual-level linkage of administrative and public health registers in Denmark. All Danish citizens who received gastric bypass or gastric banding between January 1, 1997, and December 31, 2012, were included in the study. Data analysis was performed from February 4 to April 14, 2016.

MAIN OUTCOMES AND MEASURES: The outcomes were incident (new-onset) psoriasis or psoriatic arthritis, or progression to severe psoriasis. Incidence rates per 1000 person-years were calculated, and crude and adjusted hazard ratios (HRs) were estimated by Cox regression models and presented with 95% CIs. The HRs were obtained by comparing the risk in the cohort of patients presurgery and postsurgery, with the presurgery groups serving as the reference groups.

RESULTS: We identified 12 364 and 1071 patients receiving gastric bypass and gastric banding, respectively. The gastric bypass subset was composed of 9480 (76.7%) women and 2884 (23.3%) men at the study start; the mean (SD) age of these patients was 27.8 (10.1) years at the study start and 41.0 (10.0) years at the time of surgery. The gastric banding subset was composed of 800 (74.7%) women and 271 (25.3) men; the mean (SD) age of these patients was 32.3 (10.1) years at the study start and 41.7 (10.0) years at the time of surgery. Adjusted HRs of psoriasis were 0.52 (95% CI, 0.33-0.81) and 1.23 (95% CI, 0.40-3.75) for gastric bypass and gastric banding, respectively. Similarly, adjusted HRs of progression to severe psoriasis were 0.44 (95% CI, 0.23-0.86) and 1.18 (95% CI, 0.12-11.49) for gastric bypass and gastric banding, respectively. Adjusted HRs of psoriatic arthritis were 0.29 (95% CI, 0.12-0.71) and 0.53 (95% CI, 0.08-3.56) for gastric bypass and gastric banding, respectively.

CONCLUSIONS AND RELEVANCE: Gastric bypass was associated with a significantly reduced risk and improved prognosis of psoriasis and psoriatic arthritis, whereas gastric banding was not. This finding may be caused by the postoperative differences in nutrient intake and/or weight loss as well as differences in the secretion of hormones that potentially modulate inflammation.

Verbetering in insulinesecretie, sensitiviteit en glucosetolerantie eerste 3 jaar na gastric bypass operatie

Effects of Roux-en-Y gastric bypass on insulin secretion and sensitivity, glucose homeostasis, and diabetic control: A prospective cohort study in Chinese patients
Surgery: May 2017 Volume 161, Issue 5, Pages 1423–1429. Pubmedid 28236446

BACKGROUND: To report on the effects of Roux-en-Y gastric bypass operation for obesity on measures of adiposity, insulin secretionand sensitivity, glucose homeostasis, and improvement in diabetic control in Chinese patients.

METHODS: This was a prospective cohort study of 152 participants (81% with diabetes) who were recruited for bariatric operation.

RESULTS: Mean body mass index was decreased by 18.1% from 30.31 ± 5.38 kg/m^2 at baseline to 24.45 ± 3.79 kg/m^2 at 2 years ($P < .001$). Indices of insulin secretion, including serum c-peptide (both fasted and at various time points during an oral glucosetolerance test) improved at the 3-year follow-up, with a significant improvement
in insulin sensitivity and glucose homeostasis.

CONCLUSION: The effects of Roux-en-Y gastric bypass 3 years postoperative on adiposity were paralleled by a significant improvement in insulin secretion and sensitivity,
and glucose tolerance.