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GE-nieuws*

Coloproctologie

Appendectomie kan ongesuperviseerd veilig worden

Comparison of Appendectomy Outcomes Between Senior General Surgeons and General Surgery Residents

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Importance

In some centers, the presence of a senior general surgeon (SGS) is obligatory in every procedure, including appendectomy, while in others it is not. There is a relative paucity in the literature of reports comparing the outcomes of appendectomies performed by unsupervised general surgery residents (GSRs) with those performed in the presence of an SGS.

Objective

To compare the outcomes of appendectomies performed by SGSs with those performed by GSRs.
Design, Setting, and Participants

A retrospective analysis was performed of all patients 16 years or older operated on for assumed acute appendicitis between January 1, 2008, and December 31, 2015. The cohort study compared appendectomies performed by SGSs and GSRs in the general surgical department of a teaching hospital.

Main Outcomes and Measures

The primary outcome measured was the postoperative early and late complication rates. Secondary outcomes included time from emergency department to operating room, length of surgery, surgical technique (open or laparoscopic), use of laparoscopic staplers, and overall duration of postoperative antibiotic treatment.

Results

Among 1649 appendectomy procedures (mean [SD] patient age, 33.7 [13.3] years; 612 female [37.1%]), 1101 were performed by SGSs and 548 by GSRs. Analysis demonstrated no significant difference 13

between the SGS group and the GSR group in overall postoperative early and late complication rates, the use of imaging techniques, time from emergency department to operating room, percentage of complicated appendicitis, postoperative length of hospital stay, and overall duration of postoperative antibiotic treatment. However, length of surgery was significantly shorter in the SGS group than in the GSR group (mean [SD], 39.9 [20.9] vs 48.6 [20.2] minutes; $P < .001$).

Conclusions and Relevance

This study demonstrates that unsupervised surgical residents may safely perform appendectomies, with no difference in postoperative early and late complication rates compared with those performed in the presence of an SGS.

Risicostratificatietool voor wondinfecties bij patiënten met een colon carcinoom

*Risk Stratification for Surgical Site Infections in Colon Cancer. Amri R., JAMA surg 2017, 152(7):686-690
PMID: 2618384*

Importance

Surgical site infections (SSIs) feature prominently in surgical quality improvement and pay-for-performance measures. Multiple approaches are used to prevent or reduce SSIs, prompted by the heavy toll they take on patients and health care budgets. Surgery for colon cancer is not an exception.

Objective

To identify a risk stratification score based on baseline and operative characteristics.

Design, Setting, and Participants

This retrospective cohort study included all patients treated surgically for colon cancer at Massachusetts General Hospital from 2004 through 2014 ($n = 1481$).

Main Outcomes and Measures

The incidence of SSI stratified over baseline and perioperative factors was compared and compounded in a risk score.

Results

Among the 1481 participants, 90 (6.1%) had SSI. Median (IQR) age was 66.9 (55.9-78.1) years. Surgical site infection rates were significantly higher among people who smoked (7.4% vs 4.8%; $P = .04$), people who abused alcohol (10.6% vs 5.7%; $P = .04$), people with type 2 diabetes (8.8% vs 5.5%; $P = .046$), and obese patients (11.7% vs 4.0%; $P < .001$). Surgical site infection rates were also higher among patients with an operation duration longer than 140 minutes (7.5% vs 5.0%; $P = .05$) and in nonlaparoscopic approaches (clinically significant only, 6.7% vs 4.1%; $P = .07$). These risk factors were also associated with an increase in SSI rates as a compounded score ($P < .001$). Patients with 1 or fewer risk factors ($n = 427$) had an SSI rate of 2.3%, equivalent to a relative risk of 0.4 (95% CI, 0.16-0.57; $P < .001$); patients with 2 risk factors ($n = 445$) had a 5.2% SSI rate (relative risk, 0.78; 95% CI, 0.49-1.22; $P = .27$); patients with 3 factors ($n = 384$) had a 7.8% SSI rate (relative risk, 1.38; 95% CI, 0.91-2.11; $P = .13$); and patients with 4 or more risk factors ($n = 198$) had a 13.6% SSI rate (relative risk, 2.71; 95% CI, 1.77-4.12; $P < .001$).

Conclusions and Relevance

This SSI risk assessment factor provides a simple tool using readily available characteristics to stratify patients by SSI risk and identify patients at risk during their postoperative admission. Thereby, it can be used to potentially focus frequent monitoring and more aggressive preventive efforts on high-risk patient

MSI status geen onafhankelijke voorspeller voor overleving in patiënten met coloncarcinoom

*Competing risks analysis of microsatellite instability as a prognostic factor in colorectal cancer. Toh J., BJS, Aug 2017 – Volume 104 – Issue 9, pages 1250-1259.
PMID: 28401534*

Background

Despite an extensive literature suggesting that high microsatellite instability (MSI-H) enhances survival and protects against recurrence after colorectal cancer resection, such effects remain controversial as many studies show only a weak bivariate association or no multivariable association with outcome. This study examined the relationship between MSI status and colorectal cancer outcomes with adjustment for death from other causes as a competing risk.

Method

A hospital database of patients following colorectal cancer resection was interrogated for clinical, operative, pathology, adjuvant therapy and follow-up information. MSI-H status was determined by immunohistochemistry for mismatch repair protein deficiency. The cumulative incidence of recurrence and colorectal cancer-specific death was evaluated by competing risks methods.

Results

Among 1009 patients who had a resection between August 2002 and December 2008, and were followed to at least December 2013, there were 114 (11.3 per cent) with MSI-H (72.8 per cent aged at least 70 years; 63.2 per cent women). After potentially curative resection, with adjustment for non-colorectal cancer death as a competing risk and adjustment for 22 clinical, operative and pathological variables, there was no association between MSI-H and recurrence (hazard ratio (HR) 0.81, 95 per cent c.i. 0.42 to 1.57) or colorectal cancer-specific death (HR 0.73, 0.39 to 1.35) in this patient population. For palliative resections, there was no association between MSI-H and colorectal cancer-specific death (HR 0.65, 0.21 to 2.04). MSI-H was associated with non-colorectal cancer death after both curative (HR 1.55, 1.04 to 2.30) and palliative (HR 3.80, 1.32 to 11.00) resections.

Conclusion

Microsatellite instability status was not an independent prognostic variable in these patients.

UPPER GI

Minimaal invasieve oesofagusresectie geeft betere kwaliteit van leven, psychisch functioneren en minder pijn en vermoeidheid versus open chirurgie

Meta-analysis of health-related quality of life after minimally invasive versus open oesophagectomy for oesophageal cancer. Kauppila, BJS Aug 2017 – Volume 104 – Issue 9 – p 1131-1140 Pubmedid 28632926

Background

The aim of this systematic review and meta-analysis was to compare health-related quality of life (HRQoL) outcomes between minimally invasive and open oesophagectomy for cancer at different postoperative time points.

Method

A search of PubMed (MEDLINE), Web of Science, Embase, Scopus, CINAHL and the Cochrane Library was performed for studies that compared open with minimally invasive oesophagectomy. A random-effects meta-analysis was conducted for studies that measured HRQoL scores using the European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 and QLQ-OES18 questionnaires. Mean differences (MDs) greater than 10 in scores were considered clinically relevant. Pooled effects of MDs with 95 per cent confidence intervals were estimated to assess statistical significance.

Results

Nine studies were included in the qualitative analysis, involving 1157 patients who had minimally invasive surgery and 907 patients who underwent open surgery. Minimally invasive surgery resulted in better scores for global quality of life (MD 11.61, 95 per cent c.i. 3.84 to 19.39), physical function (MD 11.88, 3.92 to 19.84), fatigue (MD -13.18, -17.59 to -8.76) and pain (MD -15.85, -20.45 to -11.24) compared with open surgery at 3 months after surgery. At 6 and 12 months, no significant differences remained.

Conclusion

Patients report better global quality of life, physical function, fatigue and pain 3 months after minimally invasive surgery

Lymfeklierratio nuttige tool voor het selecteren van patiënten voor adjuvante chemoradiatie na curatieve maagresectie in patiënten met maagcarcinoom

Impact of lymph node ratio in selecting patients with resected gastric cancer for adjuvant therapy. Kim Y., Surgery: August 2017 Volume 162, Issue 2, Pages 285–294

Pubmedid 28578142

Background

The impact of adjuvant chemotherapy and chemo-radiation therapy in the treatment of resectable gastric cancer remains varied. We sought to define the clinical impact of lymph node ratio on the relative benefit of adjuvant chemotherapy or chemo-radiation therapy among patients having undergone curative-intent resection for gastric cancer.

Methods

Using the multi-institutional US Gastric Cancer Collaborative database, 719 patients with gastric adenocarcinoma who underwent curative-intent resection between 2000 and 2013 were identified. Patients with metastasis or an R2 margin were excluded. The impact of lymph node ratio on overall survival among patients who received chemotherapy or chemo-radiation therapy was evaluated.

Results

Median patient age was 65 years, and the majority of patients were male (56.2%). The majority of patients underwent either subtotal (40.6%) or total gastrectomy (41.0%), with the remainder undergoing distal gastrectomy or wedge resection (18.4%). On pathology, median tumor size was 4 cm; most patients had a T3 (33.0%) or T4 (27.9%) lesion with lymph node metastasis (59.7%). Margin status was R0 in 92.5% of patients. A total of 325 (45.2%) patients underwent resection alone, 253 (35.2%) patients received 5-FU or capecitabine-based chemo-radiation therapy, whereas the remaining 141 (19.6%) received chemotherapy. Median overall survival was 40.9 months, and 5-year overall survival was 40.3%. According to lymph node ratio categories, 5-year overall survival for patients with a lymph node ratio of 0, 0.01–0.10, >0.10–0.25, >0.25 were 54.1%, 53.1%, 49.1% and 19.8%, respectively. Factors associated with worse overall survival included involvement of the gastroesophageal junction (hazard ratio 1.8), T-stage (3–4: hazard ratio 2.1), lymphovascular invasion (hazard ratio 1.4), and lymph node ratio (>0.25: hazard ratio 2.3; all $P < .05$). In contrast, receipt of adjuvant chemo-radiation therapy was associated with an improved overall survival in the multivariable model (versus resection alone: hazard ratio 0.40; versus chemotherapy: hazard ratio 0.45, both $P < .001$). The benefit of chemo-radiation therapy for resected gastric cancer was noted only among patients with lymph node ratio >0.25 (versus resection alone: hazard ratio 0.34; versus chemotherapy: hazard ratio 0.45, both $P < .001$). In contrast, there was no noted overall survival benefit of chemotherapy or chemo-radiation therapy among patients with lymph node ratio ≤ 0.25 (all $P > .05$).

Conclusion

Adjuvant chemotherapy or chemo-radiation therapy was utilized in more than one-half of patients undergoing curative-intent resection for gastric cancer. Lymph node ratio may be a useful tool to select patients for adjuvant chemo-radiation therapy, because the benefit of chemo-radiation therapy was isolated to patients with greater degrees of lymphatic spread (ie, lymph node ratio >0.25).

HPB

Heropnames na pancreasresectie meestal vanwege infectieuze complicaties, dehydratie en voedingsproblemen

30-day Readmission After Pancreatic Resection: A Systematic Review of the

Literature and Meta-analysis. Fisher, A.V. Annals of Surgery; August 2017 – Volume 266 – Issue 2 – p 242-250

Pubmedid 28323675

Objective

The aim of this study was to identify and compare common reasons and risk factors for 30-day readmission after pancreatic resection.

Background

Hospital readmission after pancreatic resection is common and costly. Many studies have evaluated this problem and numerous discrepancies exist regarding the primary reasons and risk factors for readmission.

Methods

Multiple electronic databases were searched from 2002 to 2016, and 15 relevant articles identified. Overall readmission rate was calculated from individual study estimates using a random-effects model. Study data were combined and overall estimates of odds ratios (ORs) and 95% confidence intervals (CIs) were calculated for each risk factor. Multivariable data were qualitatively synthesized.

Results

The overall 30-day readmission rate was 19.1% (95% CI 17.4–20.7) across all studies. Infectious complications and gastrointestinal disorders, such as failure to thrive and delayed gastric emptying, together accounted for 58.9% of all readmissions. Demographic factors did not predict readmission. Heart disease (OR 1.37, 95% CI 1.12–1.67), hypertension (OR 1.44, 95% CI 1.09–1.91), and intraoperative blood transfusion (OR 1.45, 95% CI 1.15–1.83) were weak predictors of readmission, while any postoperative complications (OR 2.22, 95% CI 1.55–3.18) or severe complications (OR 2.84, 95% CI 1.65–4.89) were stronger predictors.

Conclusions

Readmission after pancreatic resection is common and can largely be attributed to infectious complications and inability to maintain adequate hydration and nutrition. Focus on outpatient resources and follow-up to address these issues will prove valuable in reducing readmissions.

Hoog volume centra voor patiënten die een pancreaticoduodenectomie ondergaan gunstig voor perioperatieve uitkomsten, korte termijn mortaliteit en overleving

Going the Extra Mile: Improved Survival for Pancreatic Cancer Patients Traveling to High-volume Centers. Lidsky M.E., Annals of Surgery; August 2017 – Volume 266 – Issue 2 – p 333-338
Pubmedid 27429020

Background

Many patients with stage I-II pancreatic adenocarcinoma do not undergo resection. We hypothesized that (1) clinical staging underestimates nodal involvement, causing stage IIB to have a greater percent of resected patients and (2) this stage-shift causes discrepancies in observed survival.

Methods

The Surveillance, Epidemiology, and End Results (SEER) research database was used to evaluate cause-specific survival in patients with pancreatic adenocarcinoma from 2004–2012. Survival was compared using the log-rank test. Single-center data on 105 patients who underwent resection of pancreatic adenocarcinoma without neoadjuvant treatment were used to compare clinical and pathologic nodal staging.

Results

In SEER data, medium-term survival in stage IIB was superior to IB and IIA, with median cause-specific survival of 14, 9, and 11 months, respectively ($P < .001$). Seventy-two percent of stage IIB patients underwent resection vs 28% in IB and 36% in IIA ($P < .001$). In our institutional data, 12.4% of patients had clinical evidence of nodal involvement vs 69.5% by pathologic staging ($P < .001$). Among clinical stage IA–IIA patients, 71.6% had nodal involvement by pathologic staging.

Conclusion

Both SEER and institutional data support substantial underestimation of nodal involvement by clinical staging. This finding has implications in decisions regarding neoadjuvant therapy and analysis of outcomes in the absence of pathologic staging.

LEVERCHIRURGIE

Parenchymsparende hepatectomie standaard procedure voor solitaire metastase colorectaalcarcinoom in rechterleverhelft

*Outcomes of parenchyma-preserving hepatectomy and right hepatectomy for solitary small colorectal liver metastasis: A LiverMetSurvey study, Hosokawa I., Surgery: August 2017 Volume 162, Issue 2, Pages 223–232
Pubmedid 28434557*

Background

Occasionally, right hepatectomy, rather than parenchyma-preserving hepatectomy, has been performed for solitary small colorectal liver metastasis. The relative oncologic benefits of parenchyma-preserving hepatectomy and right hepatectomy are unclear. This study compared the outcomes of patients with solitary small colorectal liver metastasis in the right liver who underwent parenchyma-preserving hepatectomy and those who underwent right hepatectomy.

Methods

The study population consisted of a multicentric cohort of 21,072 patients operated for colorectal liver metastasis between 2000 and 2015 whose data were collected in the LiverMetSurvey registry. Patients with a pathologically confirmed solitary tumor of less than 30 mm in size in the right liver were included. The short- and long-term outcomes of patients who underwent parenchyma-preserving hepatectomy were compared to those of patients who underwent right hepatectomy.

Results

Of the 1,720 patients who were eligible for the study, 1,478 (86%) underwent parenchyma-preserving hepatectomy and 242 (14%) underwent right hepatectomy. The parenchyma-preserving hepatectomy group was associated with lower rates of major complications (3% vs 10%; $P < .001$) and 90-day mortality (1% vs 3%; $P = .008$). Liver recurrence occurred similarly in both groups (20% vs 22%; $P = .39$). The 5-year recurrence-free survival and overall survival rates were similar in both groups. However, in patients with liver-only recurrence, repeat hepatectomy was more frequently performed in the parenchyma-preserving hepatectomy group than in the right hepatectomy group (67% vs 31%; $P < .001$), and the overall 5-year survival rate was significantly higher in the parenchyma-preserving hepatectomy group than in the right hepatectomy group (55% vs 23%; $P < .001$).

Conclusion

Parenchyma-preserving hepatectomy should be considered the standard procedure for solitary small colorectal liver metastasis in the right liver when technically feasible.

Postoperatieve uitkomsten leverresectie voorspelbaar door magnetische resonantie elastografie

*Predicting postoperative outcomes of liver resection by magnetic resonance elastography Abe H., Surgery: August 2017 Volume 162, Issue 2, Pages 248–255
Pubmedid 28411865*

Background

Cirrhosis is associated with blood loss during liver resection and postoperative complications. The liver stiffness measurement has recently become available for assessment of liver fibrosis.

Methods

This prospective study was performed to predict postoperative outcomes of liver resection. The liver stiffness measurement was measured prospectively using magnetic resonance elastography for patients who had undergone liver resection for malignancy. We investigated whether the liver stiffness measurement by magnetic resonance elastography is correlated with liver fibrosis and postoperative outcomes.

Results

The median liver stiffness measurement by magnetic resonance elastography in 175 patients was 3.4 (range: 1.5–11.3) kPa, and the pathologic grade of liver fibrosis was significantly correlated with the liver stiffness measurement ($r = 0.68$, $P < .001$). The median blood loss during transection per unit area was 4.1 mL/cm² (range: 0.1–37.0 mL/cm²), and the frequency of major complications was 16.0%. The liver stiffness measurement was the only independent prognostic factor for both blood loss (regression coefficient: 1.14, 95% confidence interval: 0.45–1.83, $P = .001$) and major complications (odds ratio: 2.14, 95% confidence interval: 1.63–2.93, $P < .001$). Receiver operating characteristic curve analysis indicated a significant correlation between the liver stiffness measurement and major complications with calculated area under the curve of 0.81 ($P < .001$), and the sensitivity and specificity for prediction of major complications (cutoff value: 5.3 kPa) were 64.3% and 87.8%, respectively. On the other hand, the amount of blood loss was significantly correlated with the frequency of major complications ($P = .003$).

Conclusion

The liver stiffness measurement by magnetic resonance elastography could be used as a predictive marker for the risk of major complications due to blood loss during liver resection

BARIATRISCHE CHIRURGIE

Postoperatieve richtlijnen en meer ervaring draagt bij aan uitkomsten sleeve gastrectomie in patiënten met eind-stadium nierfalen

Addressing the challenges of sleeve gastrectomy in end-stage renal disease: Analysis of 100 consecutive renal failure patients. Kim Y., Surgery: August 2017 Volume 162, Issue 2, Pages 358–365

[Pubmedid 28411866](#)

Background

While previous studies have demonstrated short-term efficacy of laparoscopic sleeve gastrectomy in candidates awaiting renal transplantation, the combination of morbid obesity and end-stage renal disease presents unique challenges to perioperative care. We demonstrate how increasing experience and the development of postoperative care guidelines can improve outcomes in this high-risk population.

Methods

Single-center medical records were reviewed for renal transplantation candidates undergoing laparoscopic sleeve gastrectomy between 2011 and 2015 by a single surgeon. Postoperative care protocols were established and continually refined throughout the study period, including a multidisciplinary approach to inpatient management and hospital discharge planning. The first 100 laparoscopic sleeve gastrectomy patients were included and divided into 4 equal cohorts based on case sequence.

Results

Compared with the first 25 patients undergoing laparoscopic sleeve gastrectomy, the last 25 patients had shorter operative times (97.8 ± 27.9 min vs 124.2 ± 33.6 min), lower estimated blood loss (6.6 ± 20.8 mL vs 34.0 ± 38.1 mL), and shorter hospital duration of stay (1.7 ± 2.1 days vs 2.9 ± 0.7 days) ($P < .01$ each). Readmission rates, complications, and 1-year mortality did not differ significantly.

Conclusion

Increasing experience and the development of clinical care guidelines in this high-risk population is associated with reduced health care resource utilization and improved perioperative outcomes.

Nog steeds grote variatie in postoperatieve complicaties, afhankelijk van geografische locatie en volumes

*Variation in Outcomes at Bariatric Surgery Centers of Excellence. Ibrahim A.M. JAMA Surg . 2017 ; 152 (7 :) 629 – 63
Pubmedid 28445566*

Objective

To describe the variation in surgical outcomes across bariatric centers of excellence and the geographic availability of high-quality centers.

Design, Setting, and Participants

This retrospective review analyzed the claims data of 145 527 patients who underwent bariatric surgery at bariatric centers of excellence between January 1, 2010, and December 31, 2013. Data were obtained from the Healthcare Cost and Utilization Project's State Inpatient Database. This database included unique hospital identification numbers in 12 states (Arkansas, Arizona, Florida, Iowa, Massachusetts, Maryland, North Carolina, Nebraska, New Jersey, New York, Washington, and Wisconsin), allowing comparisons among 165 centers of excellence located in those states.

Participants were identified using International Classification of Diseases, Ninth Revision, Clinical Modification codes. Those included in the study cohort were patients with a primary diagnosis of morbid obesity and who underwent laparoscopic Roux-en-Y gastric bypass, open Roux-en-Y gastric bypass, laparoscopic gastric band placement, or laparoscopic sleeve gastrectomy. Excluded from the cohort were patients younger than 18 years or who had an abdominal malignant neoplasm. Data were analyzed July 1, 2016, through January 10, 2017.

Main Outcomes and Measures

Risk-adjusted and reliability-adjusted serious complication rates within 30 days of the index operation were calculated for each center. Centers were stratified by geographic location and operative volume.

Results

In this analysis of claims data from 145 527 patients, wide variation in quality was found across 165 bariatric centers of excellence, both nationwide and statewide. At the national level, the risk-adjusted and reliability-adjusted serious complication rates at each center varied 17-fold, ranging from 0.6% to 10.3%. At the state level, variation ranged from 2.1-fold (Wisconsin decile range, 1.5%-3.3%) to 9.5-fold (Nebraska decile range, 1.0%-10.3%). After dividing hospitals into quintiles of quality on the basis of their adjusted complication rates, 38 of 132 (28.8%) had a center in a higher quintile of quality located within the same hospital service area. Variation in rates of complications existed at centers with low volume (annual mean [SD] procedure volume, 156 [20] patients; complication range, 0.6%-6.4%; 9.8-fold variation), medium volume (annual mean [SD] procedure volume, 239 [27] patients; complication range, 0.6%-10.3%; 17.5-fold variation), and high volume (annual mean [SD] procedure volume, 448 [131] patients; complication range, 0.6%-4.9%; 7.5-fold variation).

Conclusions and Relevance

Even among accredited bariatric surgery centers, wide variation exists in rates of postoperative serious complications across geographic location and operative volumes. Given that a large proportion of centers are geographically located near higher-performing centers, opportunities for improvement through regional collaboratives or selective referral should be considered.