

SURGERY

Official Publication SOCIETY OF UNIVERSITY SURGEONS
CENTRAL SURGICAL ASSOCIATION
AMERICAN ASSOCIATION OF ENDOCRINE SURGEONS

COPYRIGHT © 2019 ELSEVIER INC.

CONTENTS *April 2019 Volume 165 Number 4*

DATABASE RESEARCH: BEST PRACTICES

- 669 **Databases for surgical health services research: Clininformatics Data Mart**
V. Gunaseelan, MS, MHA, B. Kenney, MPH, Jay Soong-Jin Lee, MD, H.M. Hu, PhD

CLINICAL REVIEW

- 672 **Systematic review of current prognostication systems for pancreatic neuroendocrine neoplasms**
Roxanne Y.A. Teo, MBChB, T.Z. Teo, MBBS, David W.M. Tai, MBBS, MMed, MRCP, D.M. Tan, MBBS, MMed, MRCP, S. Ong, MBBS, MMed, MRCP, Brian K.P. Goh, MBBS, MMed, MSc, FRCSEd

Numerous prognostication systems have been proposed for pancreatic neuroendocrine neoplasm, but the ideal system remains controversial. Hence, more validation and comparative studies are needed to identify the most effective prognostication system.

LIVER

- 686 **Functional and volumetric assessment of liver segments after portal vein embolization: Differences in hypertrophy response**
F. Rassam, MD, P.B. Olthof, MD, PhD, K.P. van Lienden, MD, PhD, R.J. Bennink, MD, PhD, M.G. Besselink, MD, PhD, O.R. Busch, MD, PhD, T.M. van Gulik, MD, PhD

We show in a large cohort that, after portal vein embolization, the functional response of the remnant liver is greater than the volumetric response. The importance of this finding is that it could potentially reduce the time to liver resection.

- 696 **Is disease progression a contraindication for the strategy of portal vein embolization followed by hepatectomy for hepatocellular carcinoma?**
K. Imai, MD, PhD, Y.-i. Yamashita, MD, PhD, Y. Nakao, MD, N. Uemura, MD, F. Kitamura, MD, T. Miyata, MD, PhD, S. Nakagawa, MD, PhD, H. Okabe, MD, PhD, H. Hayashi, MD, PhD, A. Chikamoto, MD, PhD, T. Ishiko, MD, PhD, H. Baba, MD, PhD

The significance of this report is providing important evidence regarding the indication and prognostic impact of portal vein embolization for patients with hepatocellular carcinoma.

- 703 **Two-stage hepatectomy for colorectal liver metastases: Pathologic response to preoperative chemotherapy is associated with second-stage completion and longer survival**

François Quénet, MD, M.-H. Pissas, MD, H. Gil, MD, L. Roca, MSc, S. Carrère, MD, O. Sgarbura, MD, P. Rouanet, MD, PhD, H. de Forges, PhD, L. Khellaf, MD, E. Deshayes, MD, M. Ychou, MD, PhD, F. Bibeau, MD, PhD

Two-stage hepatectomy showed an encouraging survival rate for bilobar colorectal liver metastasis treatment if surgery is fully completed. Pathologic response to chemotherapy after the first stage was predictive of second-stage completion and longer survival.

- 712 **The impact of R1 resection for colorectal liver metastases on local recurrence and overall survival in the era of modern chemotherapy: An analysis of 1,428 resection areas**

F. Ardito, MD, PhD, E. Panettieri, MD, M. Vellone, MD, PhD, M. Ferrucci, MD, A. Coppola, MD, N. Silvestrini, MD, V. Arena, MD, E. Adducci, MD, G. Capelli, MD, F.M. Vecchio, MD, I. Giovannini, MD, G. Nuzzo, MD, F. Giuliani, MD

Surgical margin recurrence after modern preoperative chemotherapy for colorectal liver metastases (CRLM) was significantly higher after R1 resection than after R0. The significance of this report is that R0 resection should be recommended, if technically achievable, after preoperative chemotherapy.

- 721 **A wide-margin liver resection improves long-term outcomes for patients with HBV-related hepatocellular carcinoma with microvascular invasion**

P. Yang, MD, A. Si, MD, J. Yang, MD, Z. Cheng, MD, K. Wang, MD, J. Li, MD, Y. Xia, MD, B. Zhang, MD, T.M. Pawlik, MD, PhD, MPH, W.Y. Lau, MD, FRCS, F. Shen, MD

A wide-margin resection improved prognoses in patients with hepatitis B virus-related hepatocellular carcinoma with microvascular invasion. The significance of this finding is to confirm that patients who have a microvascular invasion can benefit from wide margin resection.

Publication information: Surgery (ISSN 0039-6060) is published monthly (six issues per volume, two volumes per year) by Elsevier Inc., 230 Park Avenue, Suite 800, New York, NY 10169. Periodicals postage paid at New York, NY and additional mailing offices.

USA POSTMASTER: Send address changes to Surgery, Elsevier Health Sciences Division, Subscription Customer Service, 3251 Riverport Lane, Maryland Heights, MO 63043.

CONTENTS *continued*

- 731 **Validation of index-based IWATE criteria as an improved difficulty scoring system for laparoscopic liver resection**
S. Tanaka, MD, PhD, Y. Kawaguchi, MD, PhD, S. Kubo, MD, PhD, A. Kanazawa, MD, PhD, Y. Takeda, MD, PhD, F. Hirokawa, MD, PhD, H. Nitta, MD, PhD, T. Nakajima, MD, PhD, T. Kaizu, MD, PhD, M. Kaibori, MD, PhD, T. Kojima, MD, PhD, Y. Otsuka, MD, PhD, D. Fuks, MD, PhD, K. Hasegawa, MD, PhD, N. Kokudo, MD, PhD, H. Kaneko, MD, PhD, B. Gayet, MD, PhD, G. Wakabayashi, MD, PhD

We validated index-based difficulty classification–IWATE criteria–for laparoscopic liver resection using Japanese and French cohorts. The importance of this study is that the IWATE criteria help predict intraoperative and postoperative outcomes.

PANCREAS

- 741 **Routine intensive care unit admission among patients undergoing major pancreatic surgery for cancer: No effect on failure to rescue**
M. Cerullo, MD, MPH, F. Gani, MBBS, S.Y. Chen, MD, MPH, J.K. Canner, MHS, M. Dillhoff, MD, J. Cloyd, MD, T.M. Pawlik, MD, MPH, PhD

Roughly half of patients undergoing major pancreatic surgery were routinely admitted to an intensive care unit postoperatively. This was associated with a longer length of stay and comparable overall costs but did not translate into a lower failure-to-rescue rate.

- 747 **Mortality and morbidity after pancreatoduodenectomy in patients undergoing hemodialysis: Analysis using a national inpatient database**
H. Shinkawa, MD, PhD, H. Yasunaga, MD, PhD, K. Hasegawa, MD, PhD, H. Matsui, MPH, N. Michihata, MD, MPH, K. Fushimi, MD, PhD, N. Kokudo, MD, PhD

Patients undergoing hemodialysis had significantly elevated risks of postoperative complications including intra-abdominal bleeding, peritonitis, sepsis or disseminated intravascular coagulation, and death after pancreatoduodenectomy.

- 751 **Disparities in utilization of treatment for clinical stage I-II pancreatic adenocarcinoma by area socioeconomic status and race/ethnicity**
D.S. Swords, MD, MS, S.J. Mulvihill, MD, B.S. Brooke, MD, PhD, D.E. Skarda, MD, M.A. Firpo, PhD, C.L. Scaife, MD

We found that socioeconomic status was a powerful predictor of whether patients were treated for stage I-II pancreatic ductal adenocarcinoma. The importance of this finding is that common methodologic pitfalls can cause underestimation of the size of health care disparities.

- 760 **Prognostic significance of Chromogranin A in small pancreatic neuroendocrine tumors**
M. Raoof, MD, Z. Jutric, MD, L.G. Melstrom, MD, B. Lee, MD, D. Li, MD, S.G. Warner, MD, Y. Fong, MD, G. Singh, MD

This study identified Chromogranin A (CgA) as an independent prognostic factor for small pancreatic neuroendocrine tumors (PNETs). The importance of this finding is that CgA can be used to guide surgical decision-making.

- 767 **Genetic assessment of recurrent pancreatic high-risk lesions in the remnant pancreas: Metachronous multifocal lesion or local recurrence?**
Y. Gotoh, MD, T. Ohtsuka, MD, PhD, S. Nakamura, MD, K. Shindo, MD, PhD, K. Ohuchida, MD, Y. Miyasaka, MD, PhD, Y. Mori, MD, PhD, N. Mochidome, MD, Y. Oda, MD, PhD, M. Nakamura, MD, PhD, FACS

Genetic assessment can help discriminate metachronous multifocal pancreatic ductal adenocarcinoma from local recurrence. The significance of this finding is to inform management of a second pancreatic ductal adenocarcinoma in the remnant pancreas.

ONCOLOGY

- 775 **Short-term outcomes after laparoscopic cytoreductive surgery in patients with limited peritoneal metastases from colorectal cancer**
S.H. Ha, MD, S.Y. Park, MD, J.S. Park, MD, PhD, H.J. Kim, MD, I.T. Woo, MD, I.K. Park, MD, J.G. Kim, MD, PhD, B.W. Kang, MD, PhD, S.J. Lee, MD, PhD, W.K. Lee, PhD, G.-S. Choi, MD, PhD

We found that laparoscopic cytoreductive surgery showed advantages in recovery and maintaining oncologic safety. The importance of this finding is to allow practitioners to perform minimally invasive surgery on patients with peritoneal metastasis.

- 782 **Patient Preferences on the Use of Technology in Cancer Surveillance Following Curative Surgery: A Cross-Sectional Analysis**
A.E. Onuma, MD, E.P. Kelly, PhD, J. Chakedis, MD, A.Z. Paredes MD, MS, D.I. Tsilimigras, MD, B. Wiemann, BA, M. Johnson, MS, K. Merath, MD, O. Akgul, MD, J. Cloyd, MD, T.M. Pawlik, MD, MPH, MTS, PhD

Though many cancer patients preferred to receive “normal” surveillance results electronically, most preferred receiving abnormal results via direct communication. Technology-based applications may improve patient satisfaction.

TRAUMA

- 789 **Enhanced readability of discharge summaries decreases provider telephone calls and patient readmissions in the posthospital setting**
A.J. Choudhry, MBBS, M. Younis, MBBS, M.D. Ray-Zack, MBBS, A.E. Glasgow, MHA, N.N. Haddad, MD, E.B. Habermann, PhD, D.H. Jenkins, MD, S.F. Heller, MD, H.J. Schiller, MD, M.D. Zielinski, MD

We assessed the effect of enhanced readability of discharge summaries on post-discharge telephone calls and readmissions. The significance of this report shows a simultaneous decrease in patient post-discharge telephone calls and readmissions.

- 795 **Building community resilience: A scalable model for hemorrhage-control training at a mass gathering site, using the RE-AIM framework**
M.A. Chaudhary, MD, J. McCarty, DO, S. Shah, BS, Z. Hashmi, MD, E. Catterson, MD, PhD, S. Goldberg, MD, MPH, C. Goolsby, MD, Med, A. Haider, MD, MPH, E. Goralnick, MD, MS

This study evaluated a hemorrhage-control initiative at a mass gathering venue using the reach, effectiveness, adoption, implementation, maintenance framework. The significance of these findings provides a scalable framework for public venues.

CONTENTS *continued*

STOMACH

- 802 **Effect of age on the clinical outcomes of patients with early gastric cancer with undifferentiated-type histology**
J.H. Pyo, MD, H. Lee, MD, PhD, Y.W. Min, MD, PhD,
B.-H. Min, MD, PhD, J.H. Lee, MD, PhD, K.-M. Kim, MD, PhD,
H. Yoo, MS, K. Kim, PhD, Y.-H. Choi, MD, PhD,
J.J. Kim, MD, PhD, S. Kim, MD, PhD

We investigated the impact of age in patients who have undifferentiated-type early gastric cancer. The importance of this report is that we provided information regarding the feasibility of endoscopic resection in the young population.

ENDOCRINE

- 808 **Diversity and inclusion in a surgical society: A longitudinal investigation**
L.E. Kuo, MD, MBA, S. Parangi, MD, N.L. Cho, MD

In this examination of gender and race in one surgical society, we found that the leadership composition does not reflect the membership. The significance of this finding is that an opportunity exists to improve diversity in surgical society leadership.

- 814 **Trabecular bone score and bone mineral density in patients with postsurgical hypoparathyroidism after total thyroidectomy for differentiated thyroid carcinoma**
S.G. Iglesias, MD, PhD, M.L. De Mingo Dominguez, MD, PhD,
E.F. Herrero, MD, PhD, J.I. Martinez-Pueyo, MD, PhD,
C. Martín-Arriscado Arroba, MD, G.M. Diaz-Guerra, MD,
PhD, F.H. Carranza, MD, PhD

Postmenopausal patients who underwent total thyroidectomy for differentiated thyroid cancer with postsurgical hypoparathyroidism have greater trabecular bone score and bone mineral density compared with euparathyroid patients. The significance of this finding is that after long-term follow-up, the lack of parathyroid hormone provides protection against bone loss in postmenopausal patients with thyroid suppressive therapy attributable to thyroid cancer.

HERNIA

- 820 **Long-term assessment of surgical and quality-of-life outcomes between lightweight and standard (heavyweight) three-dimensional contoured mesh in laparoscopic inguinal hernia repair**
M.R. Arnold, MD, K.M. Coakley, DO, E.J. Fromke, S.A. Groene, MD, T. Prasad, MA, P.D. Colavita, MD, V.A. Augenstein, MD, K.W. Kercher, MD, B. Todd Heniford, MD

We compared surgical and quality-of-life outcomes between 2 mesh types in patients undergoing laparoscopic inguinal hernia repair. There was no difference in quality of life and hernia recurrence despite heavyweight mesh being used in larger defects.

OUTCOMES

- 825 **A statewide comparison of opioid prescribing in teaching versus nonteaching hospitals**
D.C. Cron, MD, MS, C. Hwang, BS, H.M. Hu, PhD, J.S. Lee, MD,
J.M. Dupree, MD, MPH, J.D. Syrjamaki, MPH,
K.C. Chung, MD, MS, C.M. Brummett, MD,
M.J. Englesbe, MD, J.F. Waljee, MD, MPH, FACS

Teaching hospitals were associated with more filling of initial opioid prescriptions and also exhibited more high-risk prescribing. This report documents important data for effective improvements in longitudinal patient outcomes after surgery.

- 832 **A mixed methods study of challenges in the implementation and use of the surgical safety checklist**
T. Mahmood, MD, M. Mylopoulos, PhD,
D. Bagli, MDCM, FRCSC, FAAP, FACS, R. Damignani, MSc,
BScPT, F. Aminmohamed Haji, MD, PhD, FRCSC

The significance of this report is that it helps to explain the context around the surgical safety checklist and how implementation of the checklist affects the culture in the operating room.

PEDIATRIC SURGERY

- 838 **National variation in opioid prescribing after pediatric umbilical hernia repair**
R.S. Cartmill, MS, D.-Y. Yang, PhD, S. Fernandes-Taylor, PhD,
J.E. Kohler, MD, MA

This study found that half of pediatric patients filled an opioid prescription after umbilical hernia repair. The significance of this finding is that lessening opioid prescribing after simple common procedures could impact opioid abuse in the United States.

- 843 **Very low bilirubin after portoenterostomy improves survival of the native liver in patients with biliary atresia by deferring liver fibrogenesis**
M. Hukkinen, MD, PhD, A. Kerola, MD, J. Lohi, MD, PhD,
T. Jahnukainen, MD, PhD, P. Heikkilä, MD, PhD,
M.P. Pakarinen, MD, PhD

This study shows that after a successful portoenterostomy for biliary atresia, the normalization rate of bilirubin is the main predictor of liver fibrosis progression. The importance of this is that patients at risk for early cirrhosis can be identified.

IMAGES IN SURGERY

- 851 **Unfortunate adverse event resulting from clip migration after cholecystectomy**
T. Guilbaud, MD, U. Scemama, MD, V. Lestelle, MD, P.C. Orsoni, MD, D.J. Birnbaum, MD, PhD

LETTERS TO THE EDITOR

- 853 **Re: The role of FDG PET in detecting rejection after liver transplantation**
P. Lovinfosse, MD, PhD, R. Hustinx, MD, PhD,
L. Weekers, MD, F. Jouret, MD, PhD, O. Detry, MD, PhD

- 854 **Is resection for solitary ≤ 5 cm intrahepatic cholangiocarcinoma an independent prognostic factor for survival?**
A.J. Tsai, B.S., M.D. candidate

- 854 **Re: Blunt cerebrovascular injury incidence, stroke-rate, and mortality with the expanded Denver criteria**
A. Malhotra, M.D., MMM, X. Wu, BS, L. Tu, MD, K. Seifert, MD

- 855 **On the way of distal pancreatectomies without drains**
U.F. Teixeira, MD, PhD, F.L. Waechter, MD, PhD

CONTENTS *continued*

856 **Regarding: A clinical prediction model to estimate the metastatic potential of pheochromocytoma/paraganglioma: ASES score**
S. Mattoo, MS, A. Agarwal, MS, S. Mayilvaganan, MS,
G. Agarwal, MS, A. Mishra, MS, S.K. Mishra, MS, G. Chand,
MS

856 **Reply to letter to editor regarding: "A clinical prediction model to estimate the metastatic potential of Pheochromocytoma/paraganglioma: ASES score"**
Y.Y. Cho, M.K. Kwak, S.-E. Lee, J.H. Kim, M.D., Ph.D S.H. Lee,
M.D., Ph.D.

857 **Active smoking really matters before ventral hernia repair**
M. López-Cano, MD, PhD, José A. Pereira, MD, PhD,
M. Armengol-Carrasco, MD, PhD

858 **Response to: Active smoking really matters before ventral hernia repair**
C.C. Petro, MD, L. Tastaldi, MD, M.J. Rosen, MD, FACS,
A.S. Prabhu, MD, FACS

MISCELLANEOUS

774 **The I. V. League (cartoon)**
Walter J. Pories, MD, *Greenville, NC*

READER SERVICES

A1 **Information for readers**
A6 **Information for authors**
685 **Change of address**
740 **Surgery is abstracted**

SUBMIT MANUSCRIPTS TO *SURGERY* ONLINE AT <http://ees.elsevier.com/surg>

SURGERY uses a Web-based manuscript submission and peer review system for the journal. Web-based peer review provides full electronic capabilities for submission, review, and status updates, and speeds manuscript turnaround and global access for authors and reviewers. By accessing the website, authors will be guided step by step through the creation and uploading of the required files. When submitting a manuscript to Elsevier Editorial System, authors need to provide an electronic version of their manuscript. Please include all your text elements (title page, abstract, main text, references, figure legends, and tables) in the same Word file. Figures should be submitted as separate files in a proper figure format, TIFF or EPS are preferred. Once the submission files are uploaded, the system automatically generates an electronic (PDF) proof, which is then used for reviewing. We specifically use a PDF file because it cannot be changed (except by the Editors). All correspondence, including the Editors' decisions and requests for revisions will be by e-mail.

<http://ees.elsevier.com/surg>