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CONTENTS *September 2019 Volume 166 Number 3*

LIVER

- 237 **Order of liver graft revascularization in deceased liver transplantation: A systematic review and meta-analysis**
P. Domagala, MD, PhD, K. Takagi, MD, PhD,
R.J. Porte, MD, PhD, W.G. Polak, MD, PhD

This meta-analysis examined the outcomes of different orders of the timing of techniques of revascularization of the transplanted liver-arterial or venous first. The study shows that the outcomes do not differ substantially, but these alternatives techniques may have specific indications depending on the concerning the clinical situation.

- 247 **Accuracy of estimated total liver volume formulas before liver resection**
P.B. Olthof, MD, PhD, R. van Dam, MD, PhD,
E. Jovine, MD, PhD, R.R. Campos, MD, PhD,
E. de Santibañes, MD, PhD, K. Oldhafer, MD, PhD,
M. Malago, MD, PhD, E.K. Abdalla, MD, PhD,
E. Schadde, MD, PhD

This report illustrates the accuracy of liver volume estimation formulas to predict future remnant liver volume. The importance is that these formulas might under- or overestimate liver volume, which could be associated with adverse outcomes.

- 254 **Hepatic resection versus operative microwave ablation for single hepatocellular carcinoma ≤ 5 cm: A propensity score-matched analysis**
T. Ryu, MD, Y. Takami, MD, PhD, Y. Wada, MD, PhD,
T. Hara, MD, PhD, S. Sasaki, MD, H. Saitsu, MD, PhD

We compared the long-term oncologic outcomes after hepatic resection and operative microwave ablation for single hepatocellular carcinomas ≤ 5 cm using propensity score matching analysis. This study is important because we found no significant differences in overall survival or recurrence-free survivals between these two modalities.

PANCREAS

- 263 **Efficacy of total pancreatectomy with islet autotransplantation on opioid and insulin requirement in painful chronic pancreatitis: A systematic review and meta-analysis**

M.A. Kempeneers, BSc, L. Scholten, MD, PhD,
C.R. Verkade, BSc, J.E. van Hooft, MD, PhD,
H.C. van Santvoort, MD, PhD, O.R. Busch, MD, PhD,
J.H. DeVries, MD, PhD, Y. Issa, MD, PhD,
A. Dennison, MD, M.G. Besselink, MD, PhD,
M.A. Boermeester, MD, PhD, for the Dutch Pancreatitis Study Group

This meta-analysis reports the results for adult patients with refractory painful chronic pancreatitis in terms of opioid-free and insulin-free rates after islet autotransplantation. This study is important because it shows that the opioid-free rate improved from between 0% and 15% to 63%, but the insulin-free rate decreased from between 89.5% and 100% to 30%.

- 271 **Reinforced stapler versus ultrasonic dissector for pancreatic transection and stump closure for distal pancreatectomy: A propensity matched analysis**

A. Pulvirenti, MD, L. Landoni, MD, A. Borin, MD,
M. De Pastena, MD, M. Fontana, MD, A. Pea, MD,
A. Esposito, MD, L. Casetti, MD, M. Tuveri, MD,
S. Paiella, MD, G. Marchegiani, MD, G. Malleo, MD,
R. Salvia, MD, C. Bassi, MD

Our aim was to compare the rate of pancreatic fistula after distal pancreatectomy when the pancreas was transected with a mesh-reinforced, linear, three-row stapler versus an ultrasonic dissector. The importance of this study is that it shows that the rate of clinically relevant pancreatic fistula is much less with the mesh-reinforced stapler (12% vs 40%).

- 277 **Survival of patients with borderline resectable pancreatic cancer who received neoadjuvant therapy and surgery**

C.A. Barnes, M.I. Chavez, S. Tsai, M. Aldakkak, B. George,
P.S. Ritch, K. Dua, C.N. Clarke, P. Tolat, C. Hagen, W.A. Hall,
B.A. Erickson, D.B. Evans, K.K. Christians, MD

We report survival of patients with borderline resectable pancreatic cancer treated with neoadjuvant therapy (NeoTx). Resection was completed in 62%; novel adaptive approaches will optimize future NeoTx and better determine operability.

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BILE DUCT/GALLBLADDER

286 Primary endotherapy for Strasberg type C bile leaks
 M. Mutignani, MD, L. Dioscoridi, MD, F. Pugliese, MD,
 M. Cintolo, MD, M. Massad, MD, E. Forti, MD

Operative therapy for Strasberg type C biliary fistulas after a cholecystectomy can be difficult. We describe an endoscopic approach to the creation of a temporary fistula between the transected, isolated biliary duct and the cystic duct via a controlled, purposeful perforation of the cystic duct into the peritoneum to then allow direct cannulation of the isolated bile duct in 19 patients.

290 Occult synchronous liver metastasis from perihilar cholangiocarcinoma
 T. Ohiwa, MD, T. Ebata, MD, T. Mizuno, MD,
 Y. Yokoyama, MD, J. Yamaguchi, MD, S. Onoe, MD,
 N. Watanabe, MD, M. Nagino, MD

Although patients with perihilar cholangiocarcinoma who had occult liver metastases in the hepatectomy specimen had advanced stages of the disease, their survival was better than that for patients with overt metastases. The importance of this report is that the presence of these occult metastases should be looked for because adjuvant therapy may further extend survival.

STOMACH

297 Myosteatorsis predicts prognosis after radical gastrectomy for gastric cancer: A propensity score-matched analysis from a large-scale cohort
 C.-L. Zhuang, MD, PhD, X. Shen, MD, PhD, Y.-Y. Huang, MD,
 F.-M. Zhang, MD, X.-Y. Chen, MD, L.-L. Ma, MD,
 X.-L. Chen, MD, Z. Yu, MD, PhD, S.-L. Wang, MD

We first evaluated the effects of myosteatorsis on complications and long-term outcomes after gastrectomy by using a propensity score match. The importance of this study is to better understand the impact of skeletal muscle on surgical outcomes.

305 Impact of extranodal tumor deposits on prognosis and N stage in gastric cancer
 Y. Liang, MD, L. Wu, MD, L. Liu, MD, X. Ding, MD,
 X. Wang, MD, H. Liu, MD, J. Meng, MD, R. Xu, MD,
 D. He, MD, H. Liang, MD

We analyzed 1,025 gastric cancer patients to evaluate the prognostic impact of extranodal tumor deposit. The significance of this finding is that the presence of an extranodal tumor deposit was confirmed to be an independent prognostic factor that should be included in staging.

314 A novel prognosis prediction model after completion gastrectomy for remnant gastric cancer: Development and validation using international multicenter databases
 J. Lu, MD, PhD, Z.-F. Zheng, MD, J.-F. Zhou, MD, PhD,
 B.-B. Xu, MD, C.-H. Zheng, MD, PhD, P. Li, MD, PhD,
 J.-W. Xie, MD, PhD, J.-B. Wang, MD, PhD, J.-X. Lin, MD, PhD,
 Q.-Y. Chen, MD, M.J. Truty, MD, MS, FACS,
 Q.-L. He, MD, PhD, C.-M. Huang, MD

Our predictive model can accurately determine the five-year overall survival of remnant gastric cancer patients after gastrectomy. The importance of this report is it outperformed tumor-node-metastasis staging in diverse international datasets regardless of examined lymph node counts.

BARIATRIC

322 Bariatric surgery is independently associated with a decrease in the development of colorectal lesions
 M. Kwak, MD, MPH, J.H. Mehoff, MD, MSc,
 R.B. Hawkins, MD, T.L. Hedrick, MD, C.L. Slingluff Jr., MD,
 B. Schirmer, MD, P.T. Hallowell, MD, C.M. Friel, MD

Bariatric surgery has been found to provide definitive weight loss during the course of a patient's lifetime; however, its effect on obesity-related cancer, such as colorectal cancer, is not well understood. This study is important because after propensity score matching, bariatric surgery patients had a lower incidence of developing new colorectal lesions (38%) compared with well-matched morbidly obese controls.

COLON/RECTUM

327 Digestive and genitourinary sequelae in rectal cancer survivors and their impact on health-related quality of life: Outcome of a high-resolution population-based study
 Y. Eid, MD, MSc, V. Bouvier, MD, MSc,
 B. Menahem, MD, PhD, A. Thobie, MD, MSc,
 N. Dolet, MD, MSc, M. Finochi, MD, M. Renier, MSc,
 J. Gardy, MSc, G. Launoy, MD, PhD, O. De Jardin, PhD,
 R. Morello, MD, A. Alves, MD, PhD, the Rectqol Group

Our study focuses on the holistic assessment of the functional sequelae of rectal cancer survivors and their impact on quality of life. The importance of this report is that digestive sequelae have the greatest impact on global quality of life.

Presented at the Academic Surgical Congress 2019

336 Do prolonged operative times obviate the benefits associated with minimally invasive colectomy?
 P.J. Sweigert, MD, E. Eguia, MD, MS, MHA,
 A.N. Kothari, MD, MS, K.A. Ban, MD, MS,
 M.H. Nelson, MD, M.S. Baker, MD, MBA, FACS,
 M.A. Singer, MD, FACS, FASCRS

We compared prolonged minimally invasive colectomies with open colectomies. The significance of this report is to inform surgeons that patients continue to benefit from minimally invasive approaches despite prolonged attempts.

ENDOCRINE

342 The impact of completion thyroidectomy followed by radioactive iodine ablation for patients with lymph node recurrence of papillary thyroid carcinoma
 Y. Saito, MD, PhD, K. Matsuzo, MD, PhD,
 K. Sugino, MD, PhD, H. Takami, MD, PhD,
 W. Kitagawa, MD, PhD, M. Nagahama, MD, PhD,
 K. Ito, MD, PhD

Lymphadenectomy alone achieved no decline in survival and decreased surgical disadvantages compared with completion thyroidectomy and lymphadenectomy with radioactive iodine. The importance of this report is lymphadenectomy was acceptable for postlobectomy lymph node recurrence of papillary thyroid carcinoma.

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- 349 **The 2015 American Thyroid Association guidelines are associated with an increasing rate of hemithyroidectomy for thyroid cancer**
T.M. Ullmann, MD, K.D. Gray, MD, D. Stefanova, MD, J. Limberg, MD, J.L. Buicko, MD, B. Finnerty, MD, R. Zarnegar, MD, T.J. Fahey III, MD, T. Beninato, MD
- The most recent American Thyroid Association guidelines advocated for hemithyroidectomy for patients with low-risk thyroid cancers. For the first time, we show this recommendation may be changing practice patterns. The importance of this report is to highlight this change.

- 356 **Toxic nodular goiter and thyroid cancer: Is hyperthyroidism protective against thyroid cancer?**
A.A. Tam, MD, D. Ozdemir, MD, A. Alkan, MD, O. Yazicioglu, MD, N. Yildirim, MD, A. Kilicyazgan, MD, R. Ersoy, MD, B. Cakir, MD
- The rate of thyroid cancer in toxic nodular goiter may not be as rare as it was assumed to be in the past literature. Our study is important because it demonstrates that there was no protective effect of thyrotoxicosis secondary to toxic nodular goiter on the incidence of thyroid cancer in the extranodular thyroid tissue.

- 362 **Aldosterone level after saline infusion test could predict clinical outcome in primary aldosteronism after adrenalectomy**
C.-K. Chan, MD, J.-H. Kim, MD, E. Chueh, MD, C.-C. Chang, MD, Y.-F. Lin, MD, T.-S. Lai, MD, K.-H. Huang, MD, Y.-H. Lin, PhD, V.-C. Wu, PhD, TAIPAI Study Group
- We found that the post-saline–infusion aldosterone level was not only a confirmatory test but also could be a predictor of clinical outcome in primary aldosteronism patients after adrenalectomy.

- 369 **Complete and incomplete recurrent laryngeal nerve injury after thyroid and parathyroid surgery: Characterizing paralysis and paresis**
M. Schneider, MD, V. Dahm, MD, C. Passler, MD, E. Sterrer, MD, G. Mancusi, MD, R. Repasi, MD, E. Gschwandtner, MD, E. Fertl, MD, L. Handgriff, MD, M. Hermann, MD
- In this prospective study the incidence of vocal fold hypomobility versus complete vocal fold immobility after thyroid surgery was evaluated. The importance of our findings are shown by a significant difference in prognosis and outcome of these 2 entities.

OUTCOMES

- 375 **Opioid prescriptions for acute pain after outpatient surgery at a large public university-affiliated hospital: Impact of state legislation in Florida**
P. Potnuru, MD, R. Dudaryk, MD, R.E. Gebhard, MD, C. Diez, MD, MBA, O.C. Velazquez, MD, K.A. Candiotti, MD, R.H. Epstein, MD
- Reductions in the proportion of patients receiving opioids and the cumulative dosage have been occurring in Florida since HB21 was passed. The significance of this report is that legislation limiting the duration of opioid prescriptions is an effective method to decrease opioids prescribed.

- 380 **Early postoperative death in extreme-risk patients: A perspective on surgical futility**
A.S. Chiu, MD, MPH, R.A. Jean, MD, B. Resio, MD, K.Y. Pei, MD

Extreme risk patients commonly undergo emergency operations with high rates of early postoperative death. The significance of this finding is that futile surgical care occurs frequently, highlighting a flaw in current practice.

Presented at the Academic Surgical Congress 2019

- 386 **Expansion coverage and preferential utilization of cancer surgery among racial and ethnic minorities and low-income groups**
A.B. Crocker, MS, A. Zeymo, MS, J. McDermott, BS, D. Xiao, MS, T.J. Watson, MD, FACS, T. DeLeire, PhD, N. Shara, PhD, K.S. Chan, PhD, W.B. Al-Refaie, MD, FACS
- In analysis of the Affordable Care Act Medicaid expansion, low-income groups saw increased utilization of cancer surgery, but racial minorities experienced no change. These findings inform understanding on the impact of Medicaid expansion on vulnerable groups.

TRAUMA/CRITICAL CARE

- 392 **Long-term social dysfunction after trauma: What is the prevalence, risk factors, and associated outcomes?**
J.P. Herrera-Escobar, MD, MPH, R. Rivero, M. Apoj, A. Geada, M. Villanyi, D. Blake, D. Nehra, MD, G. Velmahos, MD, PhD, H.M.A. Kaafarani, MD, MPH, A. Salim, MD, A.H. Haider, MD, MPH, G. Kasotakis, MD, MPH
- Lower education, long hospital stay, and African-American race appear to predispose survivors to social dysfunction after trauma, which in turn is associated with a positive post-traumatic stress disorder screen, functional limitations, and a delayed return to work.

- 398 **The impact of in-hospital complications on the long-term functional outcome of trauma patients: A multicenter study**
J.M. Lee, BA, J. Herrera-Escobar, MD, MPH, M. Apoj, BA, S.S. Al Rafai, MD, MHA, K. Han, BA, D. Nehra, MD, A. Salim, MD, K. Brasel, MD, G. Kasotakis, MD, MPH, G. Velmahos, MD, PhD, A. Haider, MD, MPH, H.M.A. Kaafarani, MD, MPH
- The aim of our prospective observational study was to examine the impact of complications in trauma patients with an Injury Severity Score of \geq nine on the long-term functional outcomes. This study is important because patients with an in-hospital complication had more long-term functional limitations, suggesting that more rehabilitation should be made available to these patients.

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- 403 **Prospective evaluation of health-related quality of life in geriatric trauma patients**
C. Santino, MS, M. Zeeshan, MD, M. Hamidi, MD,
K. Hanna, MD, A.T. Saljuqi, MD, N. Kulvatunyou, MD,
Z. Haddadin, MD, A. Northcutt, MD, B. Joseph, MD

Frail patients had poor health-related-quality-of-life at discharge. The importance of this report is that frailty indices help identify and develop targeted interventions to improve health-related quality of life among geriatric trauma patients.

- 408 **Clot activators do not expedite the time to predict massive transfusion in trauma patients analyzed with tissue plasminogen activator thrombelastography**
C.B. Walker, BS, E.E. Moore, MD, A. Kam, MD,
J. Dexter-Meldrum, T.L. Nydam, MD, M.P. Chapman, MD,
J. Chandler, BA, A. Sawaia, MD, PhD, C.D. Barrett, MD,
M.B. Yaffe, MD, PhD, H.B. Moore, MD, PhD

We found that adding plasmin to whole blood does not increase fibrinolysis but increases sensitivity to tissue plasminogen activator mediated lysis. The importance of this report is that it questions the utility of defining hyperfibrinolysis with plasmin antiplasmin complexes.

Presented at the Academic Surgical Congress 2019

- 416 **Early versus late venous thromboembolism: A secondary analysis of data from the PROPPR trial**
S.P. Myers, MD, MA, MS, J.B. Brown, MD, MSc,
C.M. Leeper, MD, MSc, M.E. Kutcher, MD, X. Chen, MPH,
C.E. Wade, PhD, J.B. Holcomb, MD, M.A. Schreiber, MD,
J.C. Cardenas, PhD, M.R. Rosengart, MD, MPH,
M.D. Neal, MD, and the PROPPR study group

In this secondary analysis of the Pragmatic, Randomized, Optimal Platelet and Plasma Ratio (PROPPR) trial, we observed differences in risk factors for early compared with late venous thromboembolism. The significance of this study is that it provides a platform for further investigation of chronologic thresholds and temporal trends in posttraumatic venous thromboembolism that may ultimately serve to individualize our approach to thromboprophylaxis.

HEALTHCARE

Presented at the Academic Surgical Congress 2019

- 423 **Gender disparities in award recipients from surgical specialty societies**
R. Atkinson, MD, P. Lu, MD, N.L. Cho, MD,
N. Melnitchouk, MD, MSc, L.E. Kuo, MD, MBA

Women are proportionately represented as surgical society award winners, although not all societies achieve this parity. These results are notable because some societies should work to eradicate these disparities.

LETTERS TO THE EDITOR

- 429 **Role of day 1 drain amylase in predicting post operative pancreatic fistula**
D.J. Kalita, DNB (Surgical Oncology), J. Yadav, MS (Surgery),
D. Kalita, MS (Surgery), K.T. Nyuwi, MS (Surgery),
S. Madhav

- 429 **Reply to: Role of day 1 drain amylase in predicting postoperative pancreatic fistula**
F. Daniel, H. Tamim, M. Hosni, A. Mailhac, F. Jamali

MISCELLANEOUS

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

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