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Abstract

Average Range Between Arantius's Ligament to Middle Hepatic Vein in Cadaver

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Abstract

Background: Laparoscopic hepatectomy has become increasingly favored for patients requiring liver resection, particularly left lateral sectionectomy, due to its advantages over open surgery, including reduced morbidity, lower blood loss, and faster recovery. The Arantius-first approach, which utilizes Arantius's ligament as a key anatomical landmark, has been proposed to improve the identification of the left hepatic vein while minimizing injury to the middle hepatic vein.

Objective: To determine the anatomical distance between Arantius's ligament and the middle hepatic vein using cadaveric specimens, in order to support safer surgical planning in laparoscopic liver resections.

Materials and Methods: Descriptive anatomical study conducted on 12 formalin-fixed cadaveric specimens. Arantius's ligament was identified between the caudate lobe and the left hepatic lobe. The middle hepatic vein was visualized via dissection of the left lobe, distinguishing it from the left hepatic vein based on anatomical branching patterns. The distance between Arantius's ligament and the middle hepatic vein was measured using a thread and a vernier caliper. Each specimen was measured three times, and the mean value was calculated. Demographic data including sex and age range were also recorded and analyzed.

Results: A total of 12 formalin-fixed cadaveric liver specimens were examined. The mean age of the specimens was 76.3 years, consisting of 6 males (50%) and 6 females (50%). The average distance between Arantius's ligament and the middle hepatic vein was 9.39 mm ± 1.42

Conclusions: This anatomical study demonstrates that the average distance between Arantius's ligament and the middle hepatic vein is approximately 9.39 mm. Understanding this spatial relationship provides essential anatomical guidance for surgeons employing the Arantius-first approach in laparoscopic hepatectomy, potentially improving intraoperative orientation and reducing the risk of middle hepatic vein injury.

Keywords: Laparoscopic hepatectomy, Arantius's ligament, middle hepatic vein, minimally invasive surgery

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Selective Use of Intraoperative Pth Monitoring in Primary Hyperparathyroidism: A retrospective Analysis of Surgical Outcomes

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Abstract

Background: The routine use of intraoperative parathyroid hormone (IOPTH) monitoring during parathyroidectomy for primary hyperparathyroidism (PHPT) is debated, particularly when pre-operative imaging confidently localizes a single adenoma.

Objectives: This study evaluates surgical outcomes at our institution based on the selective use of IOPTH.

Methods: We conducted a retrospective review of 61 patients with biochemically confirmed PHPT who underwent initial parathyroidectomy between 2019 and 2023. Patients with positive pre-operative localization were included and stratified by imaging findings (single-gland vs. multi-gland disease) and by the use of IOPTH. The primary outcome was surgical cure, defined as normocalcemia at six months post-surgery.

Results: In the cohort of 43 patients with localized single-gland disease, the surgical cure rate was 100% for both the IOPTH group (n = 13) and the non-IOPTH group (n = 30), demonstrating no statistical difference (p = 1.00). For 18 patients with findings suggestive of multi-gland disease, the cure rate was 85.7% in the IOPTH group (6 of 7 patients) compared to 72.7% in the non-IOPTH group (8 of 11 patients). This difference was not statistically significant (p = 1.00).

Conclusion: For patients with PHPT caused by a single, well-localized parathyroid adenoma, parathyroidectomy is a highly effective treatment. Our findings suggest that the routine use of IOPTH monitoring does not improve the already excellent cure rates in this specific patient population. A selective approach to IOPTH, reserving it for cases with equivocal pre-operative imaging or suspected multi-gland disease, may be a more cost-effective and equally efficacious strategy.

Keywords: parathyroidectomy, intraoperative parathyroid hormone monitoring, persistent disease

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Correlation of the Ankle-Brachial Index (ABI) Measured By Automated Device And Manual Doppler Technique For Peripheral Arterial Disease (PAD) Screening at Rajavithi Hospital

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Abstract

Background: Peripheral arterial disease (PAD) is a common atherosclerotic disorder associated with aging and cardiovascular risk factors. The ankle-brachial index (ABI) is a standard non-invasive diagnostic tool, traditionally measured by Doppler ultrasound. However, Doppler measurement is time-consuming and may limit its use in high patient volumes. Rajavithi Hospital recently introduced an automated oscillometric device (OMRON VP-1000 Plus) to facilitate ABI measurement for PAD screening. This study aimed to assess whether ABI values from the automated device are consistent with those from the standard Doppler method.

Objective: To evaluate the correlation and agreement between ABI values obtained from an automated device and the standard Doppler method in patients screened for PAD at Rajavithi Hospital.

Methods: This prospective cross-sectional study included 61 patients (122 limbs) who underwent ABI measurement using both Doppler ultrasound and an automated device (OMRON VP-1000 Plus) between October 2024 and March 2025. All measurements were performed by a single surgical resident trained by vascular surgeons to ensure consistency and minimize inter-observer bias. Correlation between methods was analyzed using Pearson's coefficient, and agreement was assessed with paired t-test, linear regression, Cohen's kappa, and McNemar test.

Results: The mean automated ABI (1.02 ± 0.27) was significantly higher than Doppler ABI (0.94 ± 0.19), with a mean difference of 0.084 (95% CI 0.042–0.126, $p < 0.001$). A moderate positive correlation was found between the two methods ($r = 0.523$, $p < 0.001$). Categorical analysis demonstrated fair agreement ($\kappa = 0.304$, $p = 0.001$), and McNemar's test showed no significant difference in PAD classification ($p = 0.430$).

Conclusions: Automated ABI demonstrates moderate correlation and fair agreement with Doppler, supporting its use as a reliable and time-saving tool for PAD screening in clinical practice.

Keywords: Peripheral arterial disease, ankle-brachial index, Doppler, automated ABI

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The Electrocautery Effect on Surgical Intestinal and Colorectal Stapple Line: A Histological Study on Extracted Specimens in Thammasat University Hospital

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Abstract

Background: In abdominal surgery, resection of the entire large intestine and small intestine is considered a main surgical procedure within the abdominal cavity. The anastomosis of the intestines is currently performed using either the hand-sewn technique or the stapling technique, depending on the context and the surgeon's proficiency. Intestinal anastomosis often involves staplers, but bleeding can occur at the staple line. This study investigates tissue necrosis from electrocautery at different durations to assess the risk of mucosal damage. Findings may help improve safe hemostatic techniques in colorectal surgery technique.

Objective: Electrocauterization at the intestinal staple line for an appropriate duration can enhance hemostasis effectiveness without causing adverse effects such as intestinal perforation.

Materials & Methods: This study was conducted as a single-center, prospective, cohort study. After intestinal and colorectal surgery was performed, the divided part of the bowel which was used as a surgical specimen ,then the part of oncologic was divided and the other part(staple side) was studied. Electrocautery was applied at 30 watts directly to the staple line of each specimen without a defined amount of pressure : only light contact with the staple line was made. Each application was performed for different durations: 1, 2, 3, 4, and 5 seconds. The cauterized points on the staple line were spaced 0.5 centimeters apart. The specimen was inflated water to intraluminal bowel at pressure 100 mmHg for observe stapple leak. Electrocauterized spot on the staple line was studied in 3 dimensions : two lateral slide ,two longitudinal side and in depth thermal injury to evaluate tissue injury on the staple line and compared about the depth of injury at 1 second and 5 second.

Result: The one hundred of tissue ,five on each of twenty slides ,were studied macroscopically and microscopically. In macroscopically, the tissue injury did not exceed the staple line. At intraluminal pressure 100 mmHg can't made staple line leak. Microscopically have a part of tissue evaluate lateral dimension, the submucosa seen sign of cell ischemia, intramuscular ischemia and cellular swelling were found in electrocauterized area but not seen mucosa and submucosa ischemia. The deepest dept of layer of specimen in electrocautery at 1second compared with 5 second *t*-test is 0.067 *p*-value 0.06.

Conclusions: Precisely and carefully performed electrocautery on intestinal colorectal surgery staple line is effective for hemostasis and as it has been proved to be safe in histological study.

Keywords: intestinal surgery, colorectal surgery, staple line, electrocauterization

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Outcomes of Robotic Versus Laparoscopic Lateral Pelvic Node Dissection in Locally Advanced Rectal Cancer: The Systematic Review and Meta-Analysis

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Abstract

Background: Lateral pelvic lymph node dissection (LPND) remains a technically demanding yet increasingly utilized procedure in the management of locally advanced rectal cancer, particularly in patients with suspected lateral pelvic node metastasis. While both robotic and laparoscopic approaches are performed in clinical practice, their comparative effectiveness remains uncertain.

Objective: To compare perioperative, functional, and oncologic outcomes of robotic versus laparoscopic LPND in patients with locally advanced rectal cancer.

Methods: A systematic review and meta-analysis were conducted in accordance with PRISMA 2020 guidelines. Studies comparing robotic and laparoscopic LPND were identified from PubMed and Cochrane Library. Outcomes of interest included operative time, blood loss, postoperative complications, lymph node yield, and oncologic results. Risk of bias was assessed using ROBINS-I, and meta-analyses were performed using random-effects models.

Results: Nine retrospective studies comprising 998 patients (404 robotic; 594 laparoscopic) were included. Robotic surgery was associated with significantly reduced intraoperative blood loss (MD = −20.89 mL, $p = 0.0001$), shorter hospital stay (MD = −2.30 days, $p < 0.00001$), and lower postoperative complication rates (OR = 0.50, $p < 0.00001$), particularly reduced rates of acute urinary retention (OR = 0.37, $p < 0.0001$). The number of retrieved lateral pelvic lymph nodes was significantly higher in the robotic group (MD = 1.76 nodes, $p < 0.00001$). However, robotic surgery had longer operative times (MD = 19.58 minutes, $p = 0.004$). There were no significant differences between groups in terms of overall recurrence, local recurrence, distant metastasis, or total lymph node yield.

Conclusion: Robotic LPND offers perioperative advantages over laparoscopic LPND, including reduced blood loss, lower morbidity, and enhanced lateral pelvic nodal yield, without compromising oncologic outcomes. These findings support the use of robotic surgery as a viable alternative in appropriately selected patients. Further high-quality randomized studies are warranted to confirm long-term efficacy and functional benefits.

Keywords: Surgery, Robotic, Laparoscopic, Rectal cancer, Lateral pelvic node dissection

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The Diagnostic Accuracy of the ACR-TIRADs in Predicting Thyroid Cancer: A Single Center, Diagnostic Test Study

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Abstract

Background: The gold standard for thyroid nodules diagnosis is Fine Needle Aspiration (FNA). Ultrasound has become a non-invasive tool for risk stratification. At Police General Hospital, we have been using the American College of Radiology Thyroid Imaging, Repoting and Data System(ACR-TIRADS) since 2021. However, ultrasound interpretation can be operator-dependent, and we had no local data on its accuracy within our hospital.

Objectives: To evaluate its diagnostic accuracy in predicting thyroid cancer to establish local performance data.

Materials & Method: We conducted a single-center, descriptive, diagnostic test study at Police General Hospital by retrospectively reviewed the records of patients from our ePHIS using specific ICD-9 (062, 064) procedure codes for thyroid operations. Including patients who received a thyroid surgery between July 1st, 2021 - July 31st, 2023. We collected baseline characteristics, imaging data from preoperative ultrasounds, and pathological data. Excluding only patients with incomplete medical records. The sample size was calculated according to "Sample size estimation in diagnostic test studies of biomedical informatics" by Hajian-Tilaki K.

Results: Final analysis was performed on 289 nodules. Using a low cutoff like ACR-TIRADS 3 gives a sensitivity of 93.6%, a specificity of 12.4%. Using a cutoff of ACR-TIRADS 5 gives a specificity of 89.7%, a sensitivity of 6.4%. A cutoff of ACR-TIRADS 4 gives a sensitivity of 78.7% and a specificity of 50.8%. The ROC area is 0.65. The Negative Predictive Value is 92.5%. When we considered only ACR-TIRADS 5 nodules that were larger than 1.08 cm, the specificity increased to 95%.

Conclusion: Using ACR-TIRADS 3 as a cutoff is an excellent screening tool. ACR-TIRADS 4 represents the best cut-point for deciding on further investigation. ACR-TIRADS 5 classification is highly specific for malignancy, especially in nodules over 1 cm, and could help guide decisions towards more definitive surgery.

Keywords: **ACR-TIRADS, thyroid nodules, thyroid cancer**

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Amputation Rate and Factors Associate with Major Amputation of Acute Limb Ischemia Patients in Tertiary Care Hospital

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Abstract

Background: Acute limb ischemia (ALI) is a vascular emergency associated with high rates of limb loss and mortality. Despite advances in treatment, amputation rates remain significant. Identifying predictive factors is crucial for optimizing patient management and improving outcomes.

Objectives: To determine the amputation rate and identify factors associated with major amputation in ALI patients in a tertiary care hospital.

Materials & Methods: A retrospective cohort study was conducted on ALI patients at Rajavithi Hospital, a tertiary care referral center, between January 2013 and December 2024. Patient demographic data, comorbidities, disease characteristics, laboratory parameters, treatment modalities, and outcomes were analyzed. Amputation was defined as major lower limb amputation (above knee or below knee amputation). Univariable and multivariable logistic regression analyses were performed to identify factors associated with major amputation.

Results: A total of 96 patients were included. The overall major amputation rate was 35.8% (95% CI: 26.8%-45.5%). In the univariable analysis, duration of occlusion > 12 hours (OR: 6.91, 95% CI: 1.24-38.52, p = 0.027), white blood cell (WBC) count >15,000/μL (OR: 5.16, 95% CI: 1.56-17.02, p = 0.007), predominant neutrophil ≥ 75% (OR: 3.33, 95% CI: 1.26-8.79, p = 0.015) and wound infection (OR: 5.21, 95% CI: 1.52-17.86, p = 0.009) were significantly associated with amputation. Rutherford classification IIa (OR: 0.004, 95% CI: 0.001-0.03, p < 0.001) and IIb (OR: 0.02, 95% CI: 0.004-0.11, p < 0.001) were protective factors. The multivariable analysis confirmed that Rutherford classification IIa (OR: 0.001, 95% CI: 0.00-0.04, p < 0.001) and IIb (OR: 0.008 95% CI: 0.00-0.20, p = 0.003) remained protective factors of major amputation.

Conclusions: The major amputation rate in ALI patients is substantial. Prolonged duration of occlusion, elevated WBC count, predominant neutrophil and wound infection are significant risk factors for limb loss, whereas Rutherford classifications IIa and IIb are associated with limb salvage. These findings emphasize the importance of early diagnosis, prompt revascularization, and management of complications like wound infection to improve limb salvage rates

Keywords: acute limb ischemia, major amputation, lower limb amputation

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Comparison of Laparoscopic Common Bile Duct Exploration (LCBE) Plus Cholecystectomy and Endoscopic Retrograde Cholangiopancreatography (ERCP)Followed By Laparoscopic Cholecystectomy in Patients with CBD Stones in Khon Kaen Hospital

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Abstract

Background: Choledocholithiasis can be treated either by a two stage strategy endoscopic retrograde cholangiopancreatography followed by laparoscopic cholecystectomy (ERCP→LC) or by a single stage surgical approach combining laparoscopic common bile duct exploration with cholecystectomy (LCBDE + LC). In This study compare stone clearance and perioperative outcomes between LCBDE+LC and ERCP→LC at Khon Kaen Hospital.

Methods: This retrospective case control study include adult patients treated for choledocholithiasis from 1 January 2021 to 31 August 2024. Patients undergoing either LCBDE+LC or ERCP→LC were be identified from operative and electronic records. The primary outcome was stone clearance at index treatment. This study used comparison of categorical proportion between 2 group , exact probability test. (*P*-value < 0.05) .

Results: A total of 72 patients were included: 53 (73.6%) underwent ERCP→LC and 19 (26.4%) underwent LCBDE + LC. The stone clearance rate was higher in the LCBDE+LC group (94.7%) compared with the ERCP→LC group (79.0%). The operative time was significantly longer for LCBDE+LC (241.1 ± 47.8 min) than for ERCP→LC (110.8 ± 54.5 min; $p < 0.001$). Postoperative complications occurred in 8 of 53 (15.1%) ERCP→LC patients and 1 of 19 (5.3%) LCBDE + LC patients ($p = 0.429$).

Conclusion: Although LCBDE+LC demonstrated a higher stone clearance rate compared with ERCP, this study did not show a statistically significant difference between the two methods. Larger, adequately powered studies are needed to confirm whether LCBDE provides superior clearance outcomes.

Keywords: Choledocholithiasis, ERCP, laparoscopic common bile duct exploration, cholecystectomy

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Male Breast Cancer in King Chulalongkorn Memorial Hospital

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Abstract

Background: The rarity of male breast cancer (MBC) has resulted in limited research on its distinct clinicopathological and molecular characteristics. As a result, current treatment guidelines are largely adapted from studies on postmenopausal female breast cancer (FBC), despite known differences in tumor biology and molecular subtypes. Establishing a comprehensive MBC database is crucial for advancing tailored treatment strategies and improving long-term survival outcomes in MBC patients.

Objective: The purpose of this study was to review about MBC patients in King Chulalongkorn Memorial Hospital.

Method: This descriptive study analyzed 26 MBC patients diagnosed at King Chulalongkorn Memorial Hospital from July 2002 to July 2024 using electronic medical records. The study aimed to review about MBC patients, with data presented in percentages and mean values.

Result: This study analyzed 26 MBC patients treated at King Chulalongkorn Memorial Hospital between July 2002 and July 2024. The findings highlight MBC as a disease primarily affecting older males, with a mean age of 65 years at diagnosis. The majority of patients presented with a palpable breast mass (88.46%). The subareolar region was the most frequent tumor location, accounting for 70.85% of cases. A significant proportion (37.51%) were diagnosed at locally advanced stages (Stage III). The predominant histological subtype was invasive ductal carcinoma (91.67%), with Luminal B, HER2-negative (41.67%) as the most common molecular subtype. Genetic testing was performed in 35%, revealing BRCA1 (37.5%) and BRCA2 (62.5%) mutations. A family history of breast cancer was present in 17%. Total mastectomy (95.83%) was the primary surgical approach, and axillary lymph node dissection (75%) was performed in cases with nodal involvement. Most patients received adjuvant endocrine therapy (83.33%). Despite comprehensive treatment, 38.10% of patients developed disease recurrence, with all cases presenting as distant metastases rather than locoregional recurrence. At 22 years of follow-up, 38.46% of patients remained alive.

Conclusion: This study provides valuable epidemiological and clinical insights into MBC. The potential for long-term disease control highlights the importance of early detection, individualized treatment strategies, and long-term surveillance in improving survival outcomes for MBC patients.

Keywords: male breast cancer, epidemiology, risk factor, genetics, survival

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Is Pressure Dressing Necessary after Transoral Endoscopic Thyroidectomy Vestibular Approach to Prevent Hematoma and Infection? : Single-Center, Randomized Control Trial

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Abstract

Background: Pressure dressing is commonly used following thyroidectomy to minimize complications such as hematoma and seroma. However, its necessity and impact on postoperative outcomes remain debated. This study aimed to evaluate the effects of pressure dressing on patients undergoing transoral endoscopic thyroidectomy vestibular approach (TOETVA).

Objective: This study aims to compare postoperative outcomes in patients with and without pressure dressing contributing to a growing body of evidence that supports optimized postoperative protocols in thyroid surgery

Methods: A total of 44 female patients who underwent TOETVA were enrolled and divided into two groups: pressure dressing (n = 22) and non-pressure dressing (n = 22). Baseline characteristics, operative data, and postoperative outcomes, including hematoma and wound infection complications, pain scores, and hospital stay, were analyzed. Statistical significance was set at $p < 0.05$).

Results: There were no significant differences between the two groups in terms of baseline characteristics. Postoperatively, hematoma occurred in one patient (4.6%) in the pressure dressing group, while seroma was observed in two patients (9.1%). One case of wound infection was reported in the non-pressure dressing group. Pain scores (4.55 ± 2.02 vs. 4.59 ± 1.92) and length of hospital stay (3.66 ± 1.15 vs. 3.32 ± 1.04 days) were similar in both groups ($p > 0.05$). Additionally, postoperative parathyroid hormone and calcium levels significantly decreased in both groups, with no significant differences observed in the rate of decline between the two groups.

Conclusion: Pressure dressing did not significantly impact postoperative outcomes, including hematoma, seroma, pain levels, or hospital stay. Given the lack of statistically significant benefits, routine use of pressure dressing in TOETVA may not be necessary.

Keywords: Thyroid nodule, TOETVA, Pressure dressing, hematoma and seroma

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The Effect of Obesity on Alvarado Score in Patients with Appendicitis and Significant Predictive Parameters for Diagnosis of Appendicitis in Obese Patients

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Abstract

Background: Alvarado score is one of the widely used scoring systems for diagnosing appendicitis. Nevertheless, this scoring system has the limitations in obese patients due to obscure symptoms and less reliability compared with the non-obese patients, leading to delayed diagnosis in obese patients. This study aims to assess the mean of Alvarado score in the obese patients compared with the non-obese patients together with the significant predictive parameters in diagnosing appendicitis in the obese.

Objectives: To study whether obesity has affected Alvarado score in the confirmed appendicitis patients who underwent appendectomy and to identify the significant predictive parameters from Alvarado score in the obese patients.

Materials & Methods: This retrospective cohort study was conducted in the Department of Surgery from the electronic medical records of the confirmed appendicitis in adult patients of Nakhonpathom hospital from January 2021 to December 2024. The sample sizes of the obese are 24 patients and 152 patients for the non-obese. Alvarado score, types of appendicitis, complications, need for CT scan, durations of symptom, operative time and length of stay are compared.

Results: Alvarado score in the obese patients, 6.71 ± 1.71, is not statistically significantly different from the non-obese patients, 7.13 ± 1.68 (P-value 0.255). Obesity is not associated with the need of CT scan and complicated appendicitis, nor increased operative time or length of stay. Neutrophilia is significantly associated with appendicitis in the obese (*P*-value 0.004). Furthermore, Alvarado score of obese patients with complicated appendicitis, 8.5 ± 1.0, is statistically significantly different from those with uncomplicated appendicitis, 6.35 ± 1.6 (*P*-value 0.018). Despite of lower scores in obese group, the patients with RLQ and neutrophilia still have a possibility of uncomplicated appendicitis.

Conclusions: Obesity does not affect Alvarado score, nor associated with the need for CT scan and severity of appendicitis. For obese group, the patients with higher Alvarado score implicated a chance of complicated appendicitis while lower score with RLQ and neutrophilia still carried the risk of uncomplicated appendicitis. CT scan should be carried to confirm diagnosis if clinical symptoms of appendicitis is suspicious.

Keywords: Alvarado score, Appendicitis, Obesity