ISW26-466-01 (0755)

INTRAOPERATIVE DOPPLER ULTRASOUND AS A DIAGNOSTIC TOOL FOR VASCULAR NAVIGATION IN BRAINSTEM TUMOR RESECTIONS

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Introduction:
Intraoperative ultrasound (IOUS) with Doppler overlay offers dynamic guidance for brainstem tumor resection yet large-scale outcome-based studies remain scarce. This study aimed to evaluate the impact of IOUS-Doppler on extent of resection, vascular complication rates, and intraoperative decision-making in brainstem tumor surgeries.

Material and Method:
A retrospective cohort study of 104 consecutive patients (aged 6–68 years) who underwent microsurgical resection for intrinsic brainstem tumors at a tertiary neurosurgical center between January 2014 and December 2023. Patients receiving IOUS with Doppler overlay were compared to a historical cohort (n=90) treated without intraoperative Doppler assistance. Data on tumor type, extent of resection (MRI-confirmed), intraoperative changes, vascular injury, neurological deficits, and 30-day outcomes were analyzed. Statistical analysis used SPSS v29 with chi-square and t-tests; significance set at $p<0.05$.

Results:
The IOUS-Doppler group demonstrated a significantly higher rate of gross total resection (GTR) (60.5% vs. 45.2%, p = 0.008),with intraoperative trajectory modification performed in 45 of 104 patients (43.2%)based on Doppler vascular visualization.Vascular injury was significantly lower in the IOUS group (3.8% vs. 11.1%, p=0.027),and new postoperative neurological deficits were reduced (9.6% vs. 17.7%, p = 0.041).Mean operative duration was not significantly different between groups(230 ± 52 minutes vs. 238 ± 49 minutes, p = 0.24).No device-related failures or adverse ultrasound-related events were recorded.Hospital stay averaged 6.8 ± 2.3 days in the IOUS-Doppler group compared to 7.5 ± 2.6 days in the control group.

Conclusion:
Intraoperative Doppler ultrasound enhances real-time vascular visualization, improving resection precision and safety in brainstem tumor surgery. Its cost-effectiveness supports use in resource-limited settings.

ISW26-466-03 (0392)

RESULTS OF TRANSCATHETER ARTERIAL EMBOLIZATION (TAE) IN PEPTIC ULCER BLEEDINGS

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Introduction:
Currently, we are witnessing changes in treatment tactics for patients with peptic ulcer bleedings (PUB) with endoscopic hemostasis at first place herewith the second place is now occupied by Transcatheter Arterial Embolization (TAE) for patients classified as "high risk". However, the TAE has limitations and can be analyzed depending on its technical and clinical effectiveness.

Material and Method:
a retrospective single-center study from 2021 to 2024 enrolled 112 patients with acute ulcer gastroduodenal bleeding with indications for (TAE). The distribution of patients - (71.4%) men and 32 (28.6%) women. The average age 67.3±14.3 years. The patients divided into 2 groups: a group with technically efficient TAE (n1=97) and a second group (n2=15) – TAE was not technically efficient.

Results:
A comparison of both groups did not reveal significant differences in such control points as rebleeding, "open" surgery, mortality and blood transfusion. Significant differences revealed only in case of abnormal anatomy of target artery, which observed in 30 (30.9%) and 12 (80%) patients accordingly, also significant was the need for arterial access conversion in 6 (6.2%) and 6 (40%) patients in both groups.

Conclusion:
Endoscopic hemostasis makes it possible to control most of PUB herewith TAE can be prescribed in patients of "high risk". Technical efficiency of TAE achieved in 86.6% patients, but even after it rebleeding observed in 19.6% of patients. Complications after TAE accounted for 26.8% of cases. The confirmed risk factors for predicting the inefficiency of TAE include ulcers>20 mm in size, abnormal arterial anatomy and the need for access artery conversion.

ISW26-466-04 (0234)

OMISSION OF LYMPH NODE DISSECTION ALONG THE RECURRENT LARYNGEAL NERVE FOR LOWER THORACIC ESOPHAGEAL SQUAMOUS CELL CARCINOMA WITH SHORT ESOPHAGEAL INVASION

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Introduction:
Esophagectomy with lymphadenectomy is the primary treatment for esophageal squamous cell carcinoma (ESCC). However, intensive dissection of lymph nodes (LNs) along the recurrent laryngeal nerve (RLN) is associated with RLN palsy and pulmonary complications leading to poor survival. Therefore, this study aimed identify the risk factors for LNs metastasis along the RLN in patients with ESCC.

Material and Method:
The present study included 168 patients with lower thoracic esophageal and esophagogastric junction (EGJ) squamous cell carcinoma who underwent esophagectomy with total mediastinal lymphadenectomy at Kobe University Hospital. Left/Right cervical paraesophageal (101 L/R), left/right recurrent nerve (106 recL/R), and left tracheobronchial LNs (106 tbL) were defined as LNs along the RLN. We evaluated the pathological distance between the proximal tumor boundary and the EGJ using images of the fixed specimen (PB-EGJ length).

Results:
LN metastasis along the RLN was observed in 19 (11%) patients. The percentage of patients with a longer PB-EGJ length and cLNs metastasis was higher in the LNs metastasis along the RLN positive-group than in the RLN-negative group ($p = 0.0075$ and $p = 0.013$, respectively). The incidence of LNs metastasis along the RLN was 0% (95% confidence interval [CI] = 0-7.7%) when the PB-EGJ length was <4 cm. Univariate analysis showed that patients with cLNs metastasis negative had a low risk for LNs metastasis along the RLN (odds ratio = 0.26 and 95% CI = 0.083-0.82).

Conclusion:
Patients with a PB-EGJ length <4 cm and negative for cLNs metastasis may be candidates for the omission of lymphadenectomy along the RLN.

Omission of lymph node dissection along the recurrent laryngeal nerve (RLN) for lower thoracic esophageal squamous cell carcinoma (ESCC) with short esophageal invasion

Background

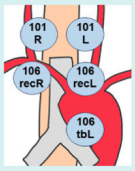
Esophagectomy with LND is the primary treatment for ESCC. Intensive LND along the RLN is associated with complications leading to poor survival.

Methods

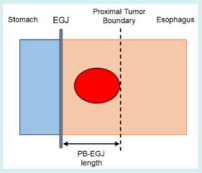
168 pts underwent esophagectomy for Lt or EGJ ESCC

Risk factors of LNM and OS were assessed

LNs around RNL

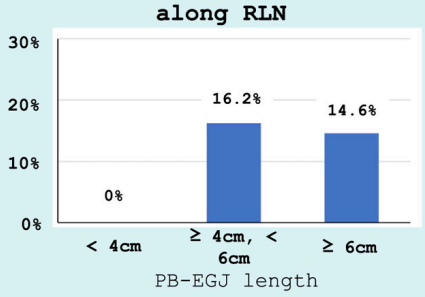


PB-EGJ length



Results

Incidence of LN metastasis along RLN

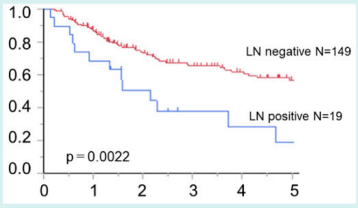


PB-EGJ length < 4 cm ▶ No LN metastasis

Univariate analysis

cLN – associated with low risk of pLN +

OS in the LN+/- along RNL



The 5-year OS rate was 19% in patients with LN+ along the RLN

Key Takeaway

 # PB-EGJ length <4cm, # cLN negative

⇒ low risk of LN metastasis along RNL

Authors: Koterazawa Y, Goto H, Saiga H, Azumi Y, Sawada R, Harada H, Urakawa N, Hasegawa H, Kanaji, Yamashita K, Matsuda T, Oshikiri T. Kakeji Y

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ISW26-466-05 (0201)

HEPATIC FIBROSIS PREDICTS POOR RESPONSE TO PREOPERATIVE CHEMOTHERAPY, POSTOPERATIVE MALNUTRITION, AND POOR SURVIVAL IN PATIENTS WITH ESOPHAGEAL SQUAMOUS CELL CARCINOMA UNDERGOING MINIMALLY INVASIVE ESOPHAGECTOMY

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Introduction:
Esophageal squamous cell carcinoma (ESCC) and hepatic cirrhosis (HC) share major risk factors, including alcohol consumption and smoking. Consequently, patients with HC exhibit an elevated incidence of ESCC. Although HC is widely recognized to contribute to poor prognosis following esophagectomy for ESCC, the underlying mechanisms remain poorly understood. This study aimed to investigate the association between hepatic fibrosis evaluated using the fibrosis-4 (FIB-4) index and postoperative outcomes among patients with ESCC undergoing esophagectomy.

Material and Method:
We retrospectively analyzed 461 patients with ESCC who underwent minimally invasive esophagectomy (MIE) at Kobe University Hospital. Hepatic fibrosis was evaluated using the FIB-4 index, which estimates liver fibrosis based on routine blood test parameters. Patients were stratified into two groups: fibrosis-positive (FIB-4 > 2.67) and fibrosis-negative (FIB-4 ≤ 2.67).

Results:
Among patients with cT1 tumors, overall survival (OS) did not differ significantly between the two groups. However, among those with ≥cT2 tumors, the fibrosis-positive group showed significantly worse OS than the fibrosis-negative group (P=0.0148). Additionally, the fibrosis-positive group had a significantly higher incidence of poor response to preoperative chemotherapy (P=0.0075). Postoperative serum albumin levels were markedly lower at 3, 6, and 12 months in the fibrosis-positive group (P=0.015, 0.043 and 0.0066, respectively). While albumin levels recovered to baseline in the fibrosis-negative group within 12 months, no such recovery was observed in the fibrosis-positive group.

Conclusion:
Preoperative hepatic fibrosis is associated with poor response to preoperative chemotherapy and prolonged postoperative malnutrition, contributing to poorer long-term survival outcomes among patients with ESCC undergoing MIE.

ISW26-466-06 (0461)

RISK FACTORS ASSOCIATED WITH SURGICAL SITE INFECTION AMONG PATIENTS UNDERGOING OPEN APPENDECTOMY FOR COMPLICATED APPENDICITIS IN A TERTIARY PHILIPPINE GOVERNMENT HOSPITAL

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Introduction:
Surgical site infections (SSIs) remain a prevalent postoperative complication following appendectomy, particularly in complicated cases. In the Philippines, where appendectomy is among the most frequently performed emergency surgeries, local data on SSI-associated risk factors are scarce.

Material and Method:
A retrospective, cross-sectional analytical study was conducted at a tertiary government hospital in the Philippines. Records of 190 randomly selected patients who underwent open appendectomy for acute appendicitis from January to December 2024 were reviewed. Clinico-demographic profiles and intraoperative variables were analyzed. Logistic regression was used to determine independent predictors of SSI within 30 days post-surgery.

Results:
SSI occurred in 15 patients (7.9%), all of whom had complicated appendicitis. Significant risk factors for SSI included operative duration >1 hour (OR 0.266, $p=0.020$), ASA classification II or lower (OR 0.096, $p<0.001$), normal BMI (OR 0.021, $p=0.003$), delay >12 hours before surgery (OR 0.085, $p<0.001$), use of Rocky Davis incision (OR 0.063, $p<0.001$), non-absorbable suture material (OR 0.068, $p<0.001$), and surgery performed by junior residents (OR 0.103, $p<0.001$). All patients received preoperative antibiotics, predominantly a second-generation cephalosporin (Cefoxitin).

Conclusion:
This study identifies key modifiable and non-modifiable risk factors for SSI in patients undergoing appendectomy for complicated appendicitis. Optimizing timing, technique, and surgeon experience, alongside stratified perioperative care, may significantly reduce SSI rates. Findings support revision of institutional protocols to enhance surgical outcomes in resource-limited settings.

Table 1. Clinico-Demographic Profile of the Patients

Variable		(N = 190) f and %	Without SSI (N=175)		With SSI (N=15)	
			f	%	f	%
Age		29.9 ± 15.2	29.6 ± 15.2		33.8 ± 16.2	
Sex	Male	132 (69.5%)	121	63.7	11	5.8
	Female	58 (30.5%)	54	28.4	4	2.1
Comorbidities	Hypertension	11 (5.35%)	10	5.3%	1	0.5
	Diabetes Mellitus	2 (1%)	1	0.5	1	0.5
	Diabates Mellitus and Hypertension	3 (1.6%)	3	1.6%	0	0
	Bronchial Asthma	3 (1.6%)	3	1.6	0	0
	None	170 (95.6%)	157	82.6	13	6.8
Antibiotic use						
Pre-operative	Cefoxitin	170 (89.3%)	155	81.5	15	7.8
	Piperacillin-Tazobactam	8 (4.2%)	8	4.2	0	0
	Piperacillin-Tazobactam + Metronidazole	5 (2.6%)	5	2.6	0	0
	Cefazolin	1 (0.5%)	1	0.5	0	0
	Ertapenem	1 (0.5%)	1	0.5	0	0
	Gentamycin + Clindamycin	1 (0.5%)	1	0.5	0	0
Post-operative	Piperacillin-Tazobactam	54 (28.4%)	45	23.7	9	4.7
	Cefoxitin	31 (16.3%)	30	15.8	1	0.5
	Ertapenem	12 (6.4%)	10	5.3	2	1.1
	Ceftriaxone	1 (0.5%)	1	0.5	1	0.5

Cefazolin	1 (0.5%)	1	0.5	0	0
Gentamycin + Clindamycin	1 (0.5%)	1	0.5	0	0
None	86 (45.3%)	86	45.3	0	0

Table 2. Factors Associated with Surgical Site Infection among patients with Complicated Appendicitis

Variable	B	95% C.I	Odds ratio	p-value
Duration of the procedure	2.160	0.082-0.870	0.266	0.020*
ASA score	2.100	0.046-0.199	0.096	<0.001*
BMI	2.010	0.002-0.268	0.021	0.003*
Promptness of procedure	2.290	0.046-0.157	0.085	<0.001*
Type of incision	2.530	0.031-0.129	0.063	<0.001*
Materials used for wound closure	2.440	0.033-0.140	0.068	<0.001*
Surgeon factor	2.050	0.052-0.205	0.103	<0.001*

Note: (*) significant if $p < .05$

ISW26-466-07 (0655)

SMALL BOWEL ANASTOMOSIS IN EMERGENCY SURGERY

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Introduction:
Emergency laparotomy is associated with a high morbidity and mortality rate. The decision on whether to perform an anastomosis or an enterostomy in emergency small bowel resection is guided by surgeon preference alone, and not evidence based. We examined the risks involved in small bowel resection and anastomosis in emergency surgery.

Material and Method:
A retrospective study from 2016 to 2019 in a university hospital in Denmark, including all emergency laparotomies, where small-bowel resections, ileocecal resections, right hemicolectomies and extended right hemicolectomies where performed. Demographics, operative data, anastomosis or enterostomy, as well as postoperative complications were recorded. Primary outcome was the rate of bowel anastomosis. Secondary outcomes were the anastomotic leak rate, mortality and complication rates.

Results:
During the 3.5-year period, 370 patients underwent emergency bowel resection. Of these 313 (84.6%) received an anastomosis and 57 (15.4%) an enterostomy. The 30-day mortality rate was 12.7% (10.2% in patients with anastomosis and 26.3% in patients with enterostomy). The overall anastomotic leak rate was 1.6%, for small-bowel to colon 3.0% and for small-bowel to small-bowel 0.6%.

Conclusion:
A primary anastomosis is performed in more than eight out of 10 patients in emergency small bowel resections and is associated with a very low rate of anastomotic leak.

ISW26-466-08 (0948)

DIAGNOSTIC ACCURACY OF ULTRASOUND IN ACUTE CHOLECYSTITIS AMONG IMMUNOSUPPRESSED PATIENTS

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Introduction:
Immunosuppressed patients often present with an atypical inflammatory response during acute cholecystitis, which complicates both clinical and sonographic diagnosis, potentially delaying treatment or leading to unnecessary surgeries. Our objective was to evaluate the diagnostic accuracy of ultrasound findings for acute cholecystitis in immunosuppressed patients.

Material and Method:
We conducted a diagnostic accuracy study in patients older than 14 years with immunosuppression who underwent cholecystectomy at a level IV hospital between 2011–2024. Sensitivity (S), specificity (E), and likelihood ratios (LR) of clinical and sonographic findings were assessed, using pathology as the reference standard.

Results:
Among 158 included patients, 87 (55.1%) had acute cholecystitis confirmed by pathology. The combination of gallbladder wall thickening, enlargement, and gallstones yielded S=100% and LR–=0 (no patient had acute cholecystitis when these findings were absent). The presence of intraluminal debris was highly specific (E=92%, LR+=3.52), and its combination with other clinical and sonographic findings reached E=100%. Fever showed very low sensitivity (S=9%) and paradoxically decreased diagnostic probability (LR+=0.82), highlighting the atypical presentation of this disease in immunosuppressed individuals. Pericholecystic fluid had limited diagnostic value.

Conclusion:
In immunosuppressed patients, the absence of gallbladder wall thickening, enlargement, and gallstones effectively rules out acute cholecystitis. Intraluminal debris is the most reliable finding to confirm the disease; however, its absence, as well as the absence of fever or pericholecystic fluid, does not reduce diagnostic probability. Integrating present and absent findings according to their diagnostic value should guide surgical decision-making in immunosuppressed patients with suspected acute cholecystitis.