Abstract

From where we come, to where we are heading?
—the viewpoint of an experienced gastric surgeon—

Motoki Ninomiya
(Yuuai medical center, Digestive disease center)

CURRICULUM VITAE

PERSONAL

Name: Motoki Ninomiya
Date and place of birth: April 1st, 1951　Yonago, Japan
Citizenship: Japan
Education:
M.D. Degree: Okayama University, School of Medicine
Ph.D. Degree: Okayama University, School of Medicine
Theme: "Study of the mechanism of induction of immunological suppression after blood transfusion"

PROFESSIONAL EXPERIENCE

1977- : Member of the first department of surgery, Okayama University, School of Medicine
1993- 2015 : Director, Department of surgery, Hiroshima City Hospital
1996- : Visiting professor of Shanghai 2nd medical University
2002- 2008 : Chief Director, Department of surgery, Hiroshima City Hospital
2003- 2015 : Clinical professor of Okayama University, School of Medicine
2009- 2015 : Vice-director of Hiroshima City Hospital
Chief Director, Outpatient Treatment Center, Hiroshima City Hospital
2014- 2015 : President of the 87th JGCA(Japan Gastric Cancer Association) annual meeting
2016- 2020 : Director of the digestive disease center, Hiroshima Memorial Hospital
2020- : Director of the digestive disease center, Yuuai medical center

LICENCE AND CERTIFICATION

1997- 2015 : Member of JCOG(Japan Clinical Oncology Group), Group of Gastric Surgery
1998- 2017 : Council member, Japanese Gastric Cancer Association
1999- : Advisory Board Member, The Japanese Society of Gastroenterological Surgery
2000- : Advisory Board Member, Japan Surgical Society
2005- 2008 : Organizer , Society of Scientific Research of ESD
2006- 2013 : Member of task force for guideline, Japanese Gastric Cancer Association
2007- : Council member, Japan Surgical Association
2010- 2014 : Trustee of Japanese Gastric Cancer Association
2012- 2013 : A delegate of Japan Surgical Association
2016- : Adviser of Japanese CART (cell-free and concentrated ascites reinfusion therapy) Study Group
2016- : Special member of Japanese Society for Advancement of Surgical Techniques
2017- : Honorable member of Japanese Gastric Cancer Association

A-1-1 Incidental intrahepatic cholangiocarcinoma presenting as multiple metastases early after living donor liver transplantation

◯Li Tianyang, Takanobu Hara, Akihiko Soyama, Ayaka Kinoshita, Hajime Matsushima, Takashi Hamada, Hajime Imamura, Tomohiko Adachi, Kengo Kanetaka, Susumu Eguchi
(Department of Surgery, Nagasaki University Graduate School of Medicine)

We here report a rare case of incidental ICC, undetectable preoperatively by imaging, that rapidly progressed in the early post-liver transplant period. A 67-year-old woman with metabolic dysfunction-associated steatohepatitis-related cirrhosis underwent living donor liver transplantation for decompensated cirrhosis and a suspected solitary hepatocellular carcinoma. Postoperatively, she required reoperation for hemostasis and steroid pulse therapy for acute cellular rejection but was discharged on postoperative day 53.

One month later, she developed jaundice, and endoscopic retrograde cholangiography with stenting was performed for a suspected biliary anastomotic stricture. Recurrent jaundice prompted imaging, revealing extensive lymphadenopathy and multiple intra-abdominal nodules suspicious of disseminated disease. Biopsy of the nodules confirmed adenocarcinoma with immunohistochemical findings suggestive of cholangiocarcinoma. The patient subsequently developed biliary obstruction, sepsis, and multiple organ failure, leading to death four months postoperatively.

Pathological examination performed on thin slice serial section specimens of the explanted cirrhotic liver revealed a 2 × 2 mm poorly differentiated intrahepatic cholangiocarcinoma (ICC) with portal vein tumor thrombi and extensive lymphatic invasion. Autopsy confirmed widespread metastases to the thoracic and abdominal cavities. This case highlights the limitations of preoperative imaging in detecting small but aggressive ICC in cirrhotic livers. While discussions on expanding liver transplantation indications for early ICC continue, it is important to recognize that cases like this, where preoperative diagnosis is difficult and rapid recurrence occurs shortly after transplantation, can have a dramatic and fatal course.

A-1-2 Evaluation of Hepatectomy Using a Novel Robotic System (hinotori)

◯Masayuki Kojima[1)], Takeshi Takahara[1)], Hideaki Iwama[1)], Yuichiro Uchida[1)], shinichi Taniwaki[1)], Akihiro Nishimura[1)], Takahiro Fukuoka[1)], Ichoro Uyama[2)], Koichi Suda[1)]
([1)]Department of Surgery, Fujita Health University, [2)]Advanced Robotic and Endoscopic Surgery, Fujita Health University)

Background:
Robotic-assisted hepatectomy was approved for insurance coverage in 2022 and is rapidly becoming widespread. Our institution has been performing robotic-assisted hepatectomy since December 2009, prior to insurance coverage, and has performed a total of 268 cases by January 2025. During this time, the robot itself has evolved, and new robotic systems with different characteristics have been developed. Our institution introduced hinotori for hepatectomy in July 2023. By January 2025, 20 cases had been performed using hinotori.

Methods:
Of the 20 robotic-assisted hepatectomies performed with hinotori at our institution from July 2023 to January 2025, the first 10 cases were designated as Group A. In Group A, hepatectomy was performed in the same manner as with da Vinci Xi. However, due to weaknesses such as insufficient devices, we recognized the need for improvements to expand surgical indications. We introduced a two-surgeon method using CUSA by the assistant for liver parenchymal dissection and fragmentation by utilizing the docking-free system, which is an advantage of hinotori. The case group after the 11th case was designated as Group B.

Results:
Comparing Group A and Group B, the median Iwate score was 5 in each group, and 7.5 in Group B. The median surgery time was 312 minutes and 328.5 minutes, respectively. The median blood loss was 96.5 ml and 108 ml, respectively. No significant difference was observed in these results.

Conclusion:
From the above, we believe that using the two-surgeon method to increase the difficulty level in robotic-assisted hepatectomy using hinotori is useful.

A-1-3 Long-term survival after eight surgeries for recurrent and metastatic solid pseudopapillary neoplasm of the pancreas

◯Yu Norimatsu, Yoshihito Kotera, Yoshinori Takeda, Yoshihiro Hirata, Takaaki Kato, Hirofumi Ichida, Ryuji Yoshioka, Yoshihiro Mise, Akio Saiura
(Juntendo University Hospital Department of Hepatobiliary-Pancreatic Surgery)

Introduction: Solid pseudopapillary neoplasm (SPN) of the pancreas is a rare, low-grade malignant tumor with a favorable prognosis after complete resection. Up to 15% of cases have distant metastases, most commonly in the liver. Even in metastatic cases, complete resection can lead to prolonged survival. We present a case of pancreatic SPN with multiple recurrences. The patient underwent seven liver resections and one peritoneal metastasectomy over 14 years of long-term survival.
Case Presentation: A 41-year-old woman with no medical history presented with abdominal pain in year X-14. Imaging revealed an intra-abdominal mass. A liver biopsy confirmed pancreatic SPN with synchronous liver metastases. A multidisciplinary team deemed the tumor resectable. In December X-14, she underwent distal pancreatectomy with extended (S4b+S8) and partial (S3) liver resection. In X-11, peritoneal metastases were resected. She later underwent multiple liver resections for recurrent metastases: S7 (X-8), left lateral sectionectomy (X-7), S6 (X-6), S1, S5, S7 (X-3), and S6+S7 (X-2). In X-1, two new liver metastases (14 mm in S1, 20 mm in S6) were detected. Despite the limited remaining liver, a seventh resection was performed. The hepatic pedicle was dissected and clamped. Partial resections of S1 and S6 were performed. The operation lasted 325 minutes with 125 mL of blood loss. The postoperative course was uneventful, and she was discharged on day 6.
Conclusion: This case highlights the role of repeated liver resection in recurrent SPN. If complete resection is feasible, long-term survival is achievable.

A-1-4 Current status and challenges in initial 5 years of the living donor liver transplantation program at our hospital in Okinawa

◯Keita Shimata, Shinichiro Ono, Itaru Chinen, Masaya Nakamoto, Tokuro Baba, Yoshihiro Miyagi, Masaaki Kuda, Hiroyuki Karimata, Hiromi Tokisawa, Tatsuya Kinjo, Mitsuhisa Takatsuki
(Department of Digestive and General Surgery, Graduate School of Medicine, University of Ryukyus)

Background:
Five years ago in Okinawa, patients needing liver transplantation (LT) had to make the arduous journey to the main island. However, in March 2020, a new chapter began as our hospital launched a living donor LT (LDLT) program.
Patients and methods:
Our study, from March 2020 to January 2025, reviewed 36 cases of LDLT performed at our hospital. We delved into patient backgrounds and perioperative data. Survival rates were calculated using the Kaplan-Meier method.
Result:
Thirty adults and six pediatric (<15 years old) cases were included. The leading cause of disease in adults was alcoholic cirrhosis, and in children was biliary atresia. Eight grafts were from the right lobe, 23 from the left lobe, 3 from the posterior segment, and 2 from the lateral segment. Significant complications included 12 bile duct complications, 4 portal vein complications, 3 hepatic artery complications, and 3 rejections in adults, and only 2 rejections and 1 tumor recurrence in children. Six adult patients and one child died within one year of transplantation. Four died of graft failure, one of gastrointestinal bleeding, and one of the sudden death of unknown cause. One child died of the recurrence of hepatoblastoma. Three of the patients with graft failure had used a posterior segment graft. The 1-year-survival rates of adult cases were 77.5%, and those of children were 83.3%.
Summary:
Although the outcome of LDLT in our center might be acceptable, we've lost patients with poor preoperative conditions and cases of using posterior segment grafts. As Okinawa's sole LT facility, we are committed to further enhancing our team's capabilities.

A-1-5 Aortic calcification is a significant risk factor for postoperative complication after major hepatectomy

◯Yuki Segi, Takahiro Ito, Naohisa Kuriyama, Benson Kaluba, Haruna Komatsubara, Daisuke Noguchi, Aoi Hayasaki, Takehiro Fujii, Yusuke Iizawa, Akihiro Tanemura, Yasuhiro Murata, Masashi Kishiwada, Shugo Mizuno

(Hepatobiliary Pancreatic and Transplant surgery, Mie university hospital)

Background: In an aging society, the number of patients with arteriosclerosis is suspected to be increasing. Aortic calcification, which is associated with arteriosclerosis, is often observed in patients undergoing hepatectomy. This study aimed to assess its impact on postoperative outcomes after major hepatectomy.
Patients and Methods: A total of 116 patients who underwent major hepatectomy (resection of three or more segments) between 2016 and 2022 were retrospectively reviewed. Aortic calcification at the origin of the celiac artery was evaluated using CT scans. Postoperative outcomes were compared between patients with and without aortic calcification. Postoperative complications were assessed using the Clavien-Dindo (C-D) classification.
Results: Aortic calcification at the origin of the celiac artery was observed in 60 (51.7%) of the 116 patients. Complications classified as C-D grade III or higher occurred in 43 patients (37%). Patients with aortic calcification were significantly older and had a higher incidence of hypertension compared to those without calcification. Notably, patients with aortic calcification had a higher incidence of postoperative complications (C-D grade III or higher), longer ICU stays, and prolonged hospital stays. Furthermore, all grade IV (n = 5) and grade V (n = 2) complications occurred in patients with aortic calcification. Multivariable analysis identified aortic calcification as an independent risk factor for postoperative complications (C-D grade III or higher).
Conclusion: These findings indicate that aortic calcification is associated with advanced age and may be a risk factor for post-hepatectomy liver failure following major hepatectomy. Evaluating aortic calcification may aid in preoperative risk stratification.

A-1-6 A case of hepatocellular carcinoma with duodenal metastasis

◯Nobuhisa Tanioka, Yasuhiro Kawanishi, Kazune Fujisawa, Masaya Munekage, Hiromichi Maeda, Hiroyuki Kitagawa, Satoru Seo

(Kochi Medical School Department of Surgery)

Extrahepatic metastasis of hepatocellular carcinoma (HCC) commonly occurs in the lungs, bones, and lymph nodes; however, metastasis to the gastrointestinal tract, especially the duodenum, is rare.
The patient was an 78-year-old man who had been treated for HCC in the background of chronic hepatitis B since X-3 years. The patient underwent hepatic right lobectomy in X-1 for a 7 cm HCC in Segment 6 after receiving atezolizumab + bevacizumab, lenvatinib, dulbalmab + toremelimmab. In January X, he presented to the emergency department with difficulty in eating and vomiting. Multiple liver, lung, and lymph node metastases and duodenal tumors were observed. Upper gastrointestinal endoscopy revealed an accumulation of food residue in the stomach and a 4-cm-sized ulcerative lesion on the oral side of the papilla of the descending duodenal leg. Biopsy confirmed the diagnosis of duodenal metastasis from HCC. Hepatobiliary enzymes were elevated during hospitalization, and after percutaneous transhepatic biliary drainage for obstructive jaundice due to bile duct invasion of the duodenal tumor, gastric jejunostomy was performed. Intraoperative findings revealed no direct invasion of the liver tumor into the duodenum or peritoneal dissemination.
With recent advances in drug therapy for HCC, including immune checkpoint inhibitors, the prognosis for patients with unresectable hepatocellular carcinoma has improved. With these advances in drug therapy, the incidence of rare distant metastases, such as duodenal metastases, is expected to increase in the future. Herein, we report this with some discussion of the literature.

A-1-7 Laparoscopic Hepatectomy for Liver Tumors Following Video-Assisted Thoracoscopic Esophagectomy: A Report of Three Cases

◯Kodai Tomioka, Takeshi Aoki, Yusuke Uchida, Kazuhiro Matsuda, Tomokazu Kusano, Yoshihiko Tashiro, Shodai Nagaishi, Satoru Goto, Tomotake Ariyoshi, Yamashita Takeshi , Akira Fujimori, Yuta Enami, Hiroki Yamaue

(Division of Gastroenterological & General Surgery, Department of Surgery, School of Showa medical University)

one primary liver tumor and two metastatic liver tumors. Preoperative chemotherapy was administered in one case. Tumor locations were S7 in one case and S4 in two cases. Surgical procedures performed were left hepatectomy in one case, hepatic subsegmentectomy in one case, partial hepatectomy in one case. No postoperative complications were observed. The mean operative time was 467.7(range: 251-723) minutes, and the mean blood loss was 454.7(range: 35-1197)g. The mean postoperative hospital stay was 10(range: 8-12) days, and all patients were discharged without complications.

Conclusion

While laparoscopic surgery typically results in fewer intra-abdominal adhesions, allowing for subsequent minimally invasive approaches, LH following VATS-E presents specific challenges. Although this approach may maintain both minimal invasiveness and curative potential, surgeons must exercise exceptional caution regarding potential organ and vascular injuries due to reduced working space from reconstructed organs and adhesions. Understanding the previous operation and meticulous surgical technique are essential for successful outcomes in these complex cases.

A-2-1 Impact of Pancreatic Ductal Occlusion on Postoperative Outcomes in Pancreatic Head Cancer Patients Undergoing Neoadjuvant Therapy

◯Yoshifumi Hidaka[1)], Shiroh Tanoue[2)], Takuro Ayukawa[3)], Koji Takumi[3)], Hirotsugu Noguchi[4)], Michiyo Higashi[4)], Tetsuya Idichi[1)], Yota Kawasaki[1)], Yuko Mataki[1)], Takao Ohtsuka[1)], Chihaya Koriyama[2)]
([1)]Department of Digestive Surgery, Graduate school of Medical and Dental Sciences, Kagoshima University, [2)]Department of Epidemiology and Preventive Medicine, Graduate school of Medical and Dental Sciences, Kagoshima University, [3)]Department of Radiology, Graduate school of Medical and Dental Sciences, Kagoshima University, [4)]Department of Pathology, Graduate school of Medical and Dental Sciences, Kagoshima University)

Background: Pancreatic ductal occlusion can accompany pancreatic head cancer, leading to pancreatic exocrine insufficiency (PEI) and adverse effects on nutritional status and postoperative outcomes. We investigated its impact on nutritional status, body composition, and postoperative outcomes in patients with pancreatic head cancer undergoing neoadjuvant therapy (NAT).
Methods: We analyzed 136 patients with pancreatic head cancer who underwent NAT prior to intended pancreaticoduodenectomy (PD) between 2015 and 2022. Nutritional and anthropometric indices (body mass index [BMI], albumin, prognostic nutritional index [PNI], Glasgow prognostic score, psoas muscle index, subcutaneous adipose tissue index [SATI], and visceral adipose tissue index) and postoperative outcomes were compared between the occlusion (n = 78) and non-occlusion (n = 58) groups, in which 61 and 44 patients, respectively, ultimately underwent PD.
Results: The occlusion group showed significantly lower post-NAT BMI, PNI, and SATI ($p = 0.011$, 0.005, and 0.015, respectively) in the PD cohort. The occlusion group showed significantly larger main pancreatic duct, smaller pancreatic parenchyma, and greater duct-parenchymal ratio ($p < 0.001$), and these morphological parameters significantly correlating with post-NAT nutritional and anthropometric indices. Postoperative 3-year survival and recurrence-free survival (RFS) rates were significantly poorer ($p = 0.004$ and 0.013) with pancreatic ductal occlusion, also identified as an independent postoperative risk factor for overall survival (hazard ratio [HR]: 2.31, 95% confidence interval [CI]: 1.08-4.94, $p = 0.030$) and RFS (HR: 2.03, 95% CI: 1.10-3.72, $p = 0.023$), in multivariate analysis.
Conclusions: Pancreatic ductal occlusion may be linked to poorer postoperative outcomes due to PEI-related malnutrition.

A-2-2 Two cases of pancreaticoduodenectomy for aneurysms of the pancreaticoduodenal arcade

◯Maki Hamaguchi, Aoi Hayasaki, Yusuke Iizawa, Koki Maeda, Takahiro Ito, Takehiro Fujii, Akihiro Tanemura, Yasuhiro Murata, Naohisa Kuriyama, Masashi Kishiwada, Shugo Mizuno
(Hepatobiliary Pancreatic and Transplant surgery, Mie university hospital)

The first case was a 54-year-old man who was rushed to the hospital complaining of abdominal pain. Contrast CT scan revealed stenosis of the root of the celiac artery due to the median arcuate ligament, dilatation of the pancreaticoduodenal arcade with aneurysm, and retroperitoneal hematoma. Emergency IVR was performed to temporarily stop bleeding by embolization of the inferior pancreaticoduodenal artery, but bleeding recurred. An attempt was made to stop bleeding again using IVR, but it was difficult to approach the posterior inferior pancreaticoduodenal artery, which was thought to be the source of the bleeding. Therefore, an emergency pancreaticoduodenectomy and median arcuate ligament resection were performed to ensure hemostasis.
The second case was a 54-year-old man who was rushed to the local hospital complaining of abdominal pain, but no abnormalities were found in blood tests and CT scans. The patient visited our hospital on the 24th day after the onset of abdominal pain due to persistent abdominal pain. Contrast CT scan revealed two aneurysms, one 11 mm and one 6 mm, in the inferior pancreaticoduodenal artery, and abdominal angiography revealed them and coil embolization was performed on the 11 mm aneurysm. However, endovascular approach was not possible for the 6 mm aneurysm. Due to the risk of rupture of the aneurysm, a pancreaticoduodenectomy was performed.
Although pancreaticoduodenectomy is a highly invasive procedure, it is a treatment option that should be considered for aneurysms in the pancreaticoduodenal arcade that cannot be treated endovascularly.

A-2-3 Robot-assisted distal pancreatectomy for recurrent VHL-associated pancreatic neuroendocrine tumor:

◯Ayano Ozawa, Yuichiro Kohara, Shunsuke Doi, Satoshi Yasuda, Minako Nagai, Kota Nakamura, Yasuko Matsuo, Takeshi Sakata, Masayuki Sho
(Department of Surgery, Nara Medical University)

Background:
VHL-associated pancreatic neuroendocrine tumors (P-NET) typically present at a young age and are low-grade, requiring pancreas-preserving treatment approaches different from sporadic cases. We report a case of robot-assisted distal pancreatectomy for recurrent P-NET.
Case:
A 45-year-old man with a history of VHL-associated renal cell carcinoma and cerebellar glioblastoma underwent laparoscopic distal pancreatectomy and splenectomy for P-NET 12 years ago. He presented with an 18mm well-defined mass in the pancreatic body identified by CT. Due to suspected recurrence, he underwent robot-assisted distal pancreatectomy. Intraoperatively, adhesions from the previous surgery were noted around the pancreas. The tumor was located close to the main pancreatic duct, precluding enucleation. Intraoperative ultrasound with a robotic probe confirmed the tumor location, guiding the resection line to preserve as much pancreas as possible. Pancreatectomy was performed using a LEINFORCE Black® 60mm stapler, and a drain was placed at the pancreatic stump. The operative time was 260 minutes, with a blood loss of 27 ml. Histopathology confirmed a diagnosis of NET G2 (Ki-67: 4.4%, 2-4 mitoses/10 HPFs), consistent with a recurrence of the previous P-NET. The patient developed a Grade B pancreatic fistula (ISGPF) but was successfully managed conservatively and discharged on postoperative day 31.
Conclusion:
Robot-assisted distal pancreatectomy proved safe and effective for recurrent VHL-associated P-NET. Intraoperative ultrasound with a robotic probe was valuable in determining the surgical approach and setting the optimal resection line for maximum pancreatic preservation.

A-2-4 Pancreatic ductal adenocarcinoma arising from the pancreatic parenchyma compressed by a huge pancreatic lipoma

◯Ayano Ota, Yuichiro Kohara, Shunsuke Doi, Satoshi Yasuda, Minako Nagai, Kota Nakamura, Yasuko Matsuo, Takeshi Sakata, Masayuki Sho
(Department of Surgery, Nara Medical University)

Background: Pancreatic lipomas (PLs), rare tumors arising from adipose tissue in the pancreatic parenchyma, have not been reported to coexist with pancreatic ductal adenocarcinoma (PDAC). We present a case of PDAC with chronic pancreatitis, compressed by a large PL.
Case Presentation: A 69-year-old man was diagnosed with a PL via computed tomography (CT) 12 years prior. The tumor exhibited slow growth and was closely monitored for potential liposarcomatous transformation. Follow-up laboratory tests revealed liver dysfunction and mild inflammation. Contrast-enhanced CT showed a 12 cm pancreatic head tumor with an irregular isodense mass invading and obstructing the distal common bile duct. Magnetic resonance cholangiopancreatography showed no abnormalities in the main pancreatic duct. Endoscopic retrograde biliary drainage and bile duct brushing cytology yielded indeterminate results. Differential diagnoses included pancreatic liposarcoma, distal cholangiocarcinoma, and pancreatic cancer. Following resolution of cholangitis, pancreatoduodenectomy was performed. Histopathology confirmed moderately differentiated PDAC compressed by proliferating adipose tissue, which was confirmed as lipoma. The surrounding pancreas exhibited fibrosis and acinar atrophy, indicating chronic pancreatitis. The final diagnosis was PDAC (pT2N0M0, pStage Ib) with chronic pancreatitis and PL. The patient recovered uneventfully and was discharged on postoperative day 15. After adjuvant chemotherapy, no recurrence was observed for over six months.
Conclusions: PL may be associated with the development of PDAC in the surrounding inflammatory microenvironment of chronic pancreatitis. In cases of growing lipomas, careful radiologic surveillance may be needed not only for the possibility of liposarcoma but also for the coincidental occurrence of PDAC.

A-2-5 Mucinous Cystic Neoplasm of the Pancreas with Rapid Growth in a Young Woman: A Case Report

◯Kosuke Nakamura, Takashi Kishi, Masashi Arakawa, Kazunari Ishitobi, Shunsuke Kaji, Takahito Taniura, Hikota Hayashi, Takeshi Matsubara, Tetsu Yamamoto, Masaaki Hidaka
(Department of Digestive and General Surgery, Shimane University Faculty of Medicine)

A 20-year-old woman visited a local doctor with upper abdominal pain, and an abdominal computed tomography revealed a 30mm diameter multilocular cystic lesion in the tail of the pancreas. The patient was referred to our hospital, but we decided to follow up carefully since the symptoms had disappeared and the patient was young. After 1 month, she returned to our hospital with a recurrence of abdominal pain, and magnetic resonance imaging showed a tendency to increase in size, and the tumor increased in size to 50mm. We diagnosed MCN of the pancreas and performed a laparoscopic distal pancreatectomy. Histologic examination revealed that the cystic lesion was diagnosed as MCN with ovarian-like stroma. MCN is highly likely to be benign, but MCN grows slowly, and the risk of malignancy in MCN increases with long-term follow-up, tumor diameter greater than 4 cm, and mural nodules. MCN may be necessary for surgical intervention, especially in rapid growth or young patients.

A-2-6 Identification of nectin family interactive gene panel and stratification of clinical outcomes in patients with pancreatic cancer

◯Yuki Imazu, Satoshi Nishiwada, Satoshi Yasuda, Minako Nagai, Kota Nakamura, Yasuko Matsuo, Chieko Yoshida, Yuichiro Kohara, Masayuki Sho
(Department of Surgery, Nara Medical University)

Background: Predicting oncologic outcomes after surgery for pancreatic ductal adenocarcinoma (PDAC) remains a challenge and further studies are needed for precise prediction to select therapeutic options. In this study, we identified a nectin family gene panel (NFGP) that can accurately stratify outcomes.
Method: Comprehensive analysis of 9 nectin family genes (Nectin-1 to 4, and Necl-1 to 5) identified the NFGP, which was assessed in public cohorts (The Cancer Genome Atlas [TCGA] n = 176; International Cancer Genome Consortium [ICGC] n = 89). It was trained and validated in the in-house training cohort without neo-adjuvant therapy (NAT, n = 213) and the validation cohort with NAT (n = 307).
Results: Using the Cox regression model, NFGP accurately stratified overall survival (OS) in TCGA ($p = 0.038$) and ICGC ($p = 0.005$). We subsequently optimized NFGP in the training cohort (OS: $p = 0.014$; relapse-free survival [RFS] : $p = 0.006$). The NFGP was successfully validated in the validation cohort (OS: $p < 0.001$; RFS: $p = 0.004$). Multivariate analysis demonstrated the NFGP was an independent prognostic factor for OS and RFS in the training ($p = 0.028$ and 0.008) and validation ($p < 0.001$ and 0.013) cohorts. The NFGP is also applicable to the subcohort according to resectability or adjuvant therapy status. Additionally, the combination model of the NFGP and CA19-9 level emerged with improved accuracy for predicting prognosis.
Conclusion: This study established the predictive significance of NFGP. Our data demonstrated clinical impact as a potent biomarker for predicting patient outcomes.

A-2-7 A case of resection of IPMC associated with pancreaticobiliary confluence abnormality resulting in bile duct obstruction due to mucus

○Ryosuke Hirota[1)], Yasuji Seyama[1)], Chikara Shirata[1)], Nobuhiro Harada[1)], Hiroko Okinaga[1)], Masanao Kurata[1)], Kazuro Chiba[2)], Mizuka Suzuki[3)], Shin-ichiro Horiguchi[4)]

([1)]Department of Hepato-Biliary-Pancreatic Surgery, Tokyo Metropolitan Cancer and Infectious Diseases Center, Komagome Hospital, Tokyo, Japan., [2)]Department of Gastroenterology, Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital, Tokyo, Japan., [3)]Department of Radiology, Tokyo Metropolitan Cancer and Infectious Diseases Center, Komagome Hospital, Tokyo, Japan., [4)]Department of Pathology, Tokyo Metropolitan Cancer and Infectious Disease Center Komagome Hospital, Tokyo, Japan.)

Background
Obstructive jaundice due to mucus filling from bile duct tumors is occasionally encountered, but mucus from IPMN rarely fills the bile duct. In this report, we present a case of intraductal papillary mucinous cancer (IPMC) probably associated with pancreaticobiliary maljunction (PBM).
Case
The patient is a 78-year-old male patient was transferred to our hospital with a diagnosis of obstructive jaundice and cholangitis. CT showed cystic lesions filled with mucus and main pancreatic duct, accessory pancreatic duct, and bile duct were also dilated. An ERBD and ENBD tube were placed, resulting in improved jaundice and cholangitis. Under the diagnosis of IPMC with bile duct perforation, surgery was planned after nutritional status improves.
Results
The patient underwent pancreatoduodenectomy. Intraoperative ultrasound showed significant dilation of the pancreatic duct up to the left border of the superior mesenteric artery. The dilated portion was completely resected. The bile duct was also markedly dilated with mucus filling the lumen. The postoperative course was uneventful and was discharged on 18th post operative days. Pathological examination revealed IPMC which invaded the pancreaticobiliary junction and the accessory papilla, exposing into the duodenal lumen. While the preoperative diagnosis was biliary duct perforation, PBM was considered more likely. The surgical margins were negative with no lymph node metastases and no vascular invasion. The patient is currently undergoing adjuvant chemotherapy with S-1.
Conclusion
In cases of IPMC associated with PBM, the bile ducts may also dilate with mucus, resulting in obstructive jaundice.

A-3-1 Total remnant pancreatectomy for intraductal tubulopapillary neoplasm with intraductal dissemination

◯Shunsuke Nagahama, Hirohisa Kitagawa, Jun Muto, Toshihiko Masui
(Kurashiki Central Hospital)

[Case presentation]
A 79-year-old woman underwent pancreaticoduodenectomy for duodenal papillary adenocarcinoma. Pathological stage was pT1bN0M0 Stage Ⅰ A. The tumor occurred from the papillary pancreatic duct(Ap). After operation, the main pancreatic duct obstructed over time, and pancreatic cancer was suspected, so we underwent total remnant pancreatectomy.
The tumor size was 18×13mm, well-differentiated tubular adenocarcinoma. Pathological stage was pT1N0M0 Stage Ⅰ A. The tumor was spreading inside the main pancreatic duct and was partialy invasing in the pancreatic parenchyma. The diagnosis was Intraductal tubulopapillary neoplasm(ITPN) and the histopathology was similar to the primary tumor.
Comparing the primary tumor to the secondary one, the way of spreading and the histopathological findings were similar. Retrospective findings show that 9months after the primary operation, the tumor occurred in the main pancreatic duct and has begun to spread. The tumor lesion was different from the anastomosis and the pancreatic ductal epithelium near the anastomosis was low grade PanIN. We checked the sample of the primary operation again and found that the diagnosis was also ITPN. So the secondary tumor is an inplantation of the ITPN.
[Conclusion]
ITPNs should be followed up with caution, because of the possibility for intraductal pancreatic inplantation or multicentric occurrence.

A-3-2 Effects of Minimally Invasive Versus Open Pancreatoduodenectomy on Short-Term Surgical Outcomes and Postoperative Nutritional and Immunological Statuses

◯Shinsei Yumoto, Hiromitsu Hayashi, Kosuke Kanemitsu, Yuki Adachi, Takuya Tajiri, Daisuke Ogawa, Rumi Itoyama, Yuki Kitano, Shigeki Nakagawa, Hirohisa Okabe, Masaaki Iwatsuki
(Department of Gastroenterological Surgery, Graduate School of Medical Sciences, Kumamoto University)

Background: The surgical advantages of minimally invasive pancreatoduodenectomy (MIPD) over open pancreatoduodenectomy (OPD) are controversial, and the postoperative nutritional and immunological statuses are unknown.
Methods: In total, 306 patients who underwent MIPD (n = 120) or OPD (n = 186) for periampullary tumors from April 2016 to February 2024 were analyzed. Surgical outcomes and postoperative nutritional and immunological indices (albumin, prognostic nutritional index [PNI], neutrophil-to-lymphocyte ratio [NLR], and platelet-to-lymphocyte ratio [PLR]) were examined by 1:1 propensity score matching (PSM) with well-matched background characteristics.
Results: PSM resulted in 2 balanced groups of 99 patients each. Compared with OPD, MIPD was significantly associated with less estimated blood loss ($P < 0.0001$), fewer intraoperative blood transfusions ($P = 0.001$), longer operative time, shorter postoperative hospital stay ($P < 0.0001$), fewer postoperative complications ($P = 0.001$) (especially clinically relevant postoperative pancreatic fistula [$P = 0.018$]), and a higher rate of textbook outcome achievement (70.7% vs 48.5%, $P = 0.001$). The number of dissected lymph nodes and the R0 resection rate did not differ between the 2 groups. In elective cases with textbook outcome achievement, the change rates of albumin, PNI, NLR, and PLR from before to after surgery were equivalent in both groups.
Conclusions: MIPD has several surgical advantages (excluding a prolonged operative time), and it enhances the achievement of textbook outcomes over OPD. However, the postoperative nutritional and immunological statuses are equivalent for both procedures.

A-3-3 Prognostic significance of creatine kinase in resected pancreatic cancer

◯Yuichiro Kohara, Satoshi Yasuda, Minako Nagai, Kota Nakamura, Yasuko Matsuo, Shunsuke Doi, Takeshi Sakata, Masayuki Sho
(Department of Surgery, Nara Medical University)

Background: Creatine kinase (CK) levels decrease with cancer progression and muscle wasting, but its association with pancreatic ductal adenocarcinoma (PDAC) remains unclear. This study aims to investigate CK as a prognostic biomarker and surrogate marker for muscle mass in patients with PDAC.
Methods: A retrospective analysis of 476 patients with PDAC was conducted. CK levels were categorized into low and high groups using ROC curve analysis.
Results: Among the 476 patients, 200 (42.0%) and 276 (58.0%) were classified into the low and high CK groups, respectively. The low CK group had significantly poorer overall survival ($p < 0.001$) and recurrence-free survival ($p < 0.001$) compared to the high CK group. Multivariate analysis identified low CK as an independent poor prognostic factor ($p < 0.001$). The low CK group had significantly lower skeletal muscle index ($p = 0.048$) than the high CK group; however, the difference was slight and not significantly associated with sarcopenia. Additionally, combined risk assessment incorporating CK and resectability facilitated a more nuanced prognostic stratification.
Conclusions: CK served as a reliable prognostic marker independent from resectability but was less effective as a marker for sarcopenia in PDAC.

A-3-4 A case of pancreatic head cancer with solitary pulmonary metastasis 8 years after radical surgery

◯Kaori Katsumata, Hidejiro Urakami, Kyoko Sakamoto, Yukiko Torizaki, Yuki Hirata, Hirofumi Shimoda, Takehiro Shimada, Yasuhito Sekimoto, Yoshiki Kawaguchi, Shiko Seki
(Department of Surgery, National Hospital Organization Tokyo Medical Center)

A 75-year-old woman was referred to our hospital with a chief complaint of jaundice. Contrast-enhanced Computed Tomography (CT) revealed extrahepatic bile duct dilation and a 15 mm mass lesion in the distal bile duct with contrast enhancement. Additionally, a 12 mm enlarged lymph node was detected around the pancreatic head. Endoscopic retrograde cholangiopancreatography was performed, and a biliary stent was placed for obstructive jaundice. Although brush cytology did not detect malignancy, serum CA19-9 level was elevated to 91.6 U/mL, and she was diagnosed with distal bile duct cancer (cT2N1M0, cStage IIB: The 7th edition). After biliary drainage, she underwent pylorus-preserving pancreaticoduodenectomy. Postoperative course was uneventful, and she was discharged on postoperative day 30. The final pathological diagnosis was invasive ductal carcinoma of head of pancreas (pT3N1aM0, pStage IIB: The 8th edition), and adjuvant chemotherapy with S-1 was done for 6 months. She was followed-up as an outpatient and remained recurrence-free for six years, however, CT at 7 years revealed an 11mm solitary nodule with spicula in the left lung. Despite FDG-PET CT showed an increased uptake with a SUVmax of 6.3, leading to a suspicion of primary lung cancer, bronchoscopic biopsy confirmed the diagnosis of lung metastasis of pancreatic cancer. She chose to have left upper segmentectomy rather than chemotherapy. She died of disease progression 8 years and 3 months after the initial surgery. After radical surgery for pancreatic cancer, it is extremely rare for patients to have isolated pulmonary metastasis during long-term survival without intra-abdominal recurrence or peritoneal dissemination.

A-3-5 Integration of ICG Navigation and Preoperative Imaging for Complete Laparoscopic Resection of Residual Gallbladder Stones: A Case Report

◯Haruka Shigemori, Shigeyuki Kosaka, Haruka Kirihara, Shohei Hayashi, Shinnosuke Harata, Kaori Watanabe, Tomoya Shamoto, Kazuyoshi Shiga, Tatsuya Tanaka, Yoichi Matsuo
(Nagoya City University East Medical Center, Department of Gastroenterological Surgery)

Background
Residual gallbladder stone disease (RGS) causes recurrent symptoms and reduces patients' quality of life. Complete resection of the residual gallbladder is necessary for a cure, but severe adhesions and altered anatomy make the procedure challenging. Although incomplete resection increases the risk of recurrent RGS, bile duct injury (BDI) must also be avoided. Preoperative imaging, including ERCP, MRCP, and DIC-CT, aids surgical planning, but intraoperative visualization is also crucial for surgical safety. Indocyanine green (ICG) fluorescence navigation provides real-time biliary anatomical visualization, reducing the risk of BDI. We report a case of complete laparoscopic resection of the residual gallbladder using integrated preoperative imaging and ICG navigation.
Case Presentation
A 68-year-old woman underwent laparoscopic cholecystectomy for gallstones 16 years ago. She presented with epigastric pain and elevated liver enzymes. CT showed a stones in the residual gallbladder and common bile duct. MRCP confirmed stones in the distal bile duct. Endoscopic drainage relieved the symptoms, but a month later she had a recurrence requiring repeat drainage. So we performed laparoscopic resection of the residual gallbladder for curative treatment. Intraoperative ICG fluorescence navigation facilitated safe identification of the common bile duct and cystic duct. The procedure was successfully completed without complications, and the patient was discharged on postoperative day 2. MRCP confirmed a complete resection of gallbladder.
Conclusion
Integration of preoperative imaging and ICG fluorescence navigation enables safety and complete gallbladder resection. This case highlights the usefulness of ICG navigation in RGS surgery.

A-3-6 Encapsulated Hematoma Mimicking Intraductal papillary neoplasm of the biliary tract (IPNB): A Case Report

◯Tomoaki Hayakawa, Shotaro Miyashita, Maiko Niki, Genki Tanaka, Takayuki Shimizu, Takamune Yamaguchi, Park Kyung-Hwa, Takatsugu Matsumoto, Shiraki Takayuki, Shozo Mori, Taku Aoki
(Department of Hepato-Biliary-Pancreatic Surgery, Dokkyo Medical University, Tochigi, Japan.)

Case Presentation
A 62-year-old male with a 41mm lesion in the liver, initially suspected to be intraductal papillary neoplasm of the biliary tract (IPNB). Preoperative liver function tests were within normal limits. The patient underwent extended left hepatectomy. Contrary to the initial diagnosis, the histopathological examination showed an encapsulated hematoma. Microscopic examination revealed the lesion was well-encapsulated with a fibrous capsule and no evidence of malignancy was identified.
Discussion
Encapsulated hematomas of the liver are rare that can mimic neoplastic lesions. This case demonstrates the difficulties in differentiating between IPNB and an encapsulated hematoma based on preoperative imaging.
IPNBs typically present as intraductal masses with biliary dilatation and are characterized by papillary growth within the bile duct lumen. On imaging, they often appear as hypodense lesions with enhancement of the papillary components. Similarly, encapsulated hematomas can demonstrate complex imaging features depending on the stage of hematoma organization.
The diagnostic confusion in this case underscores the limitations of current imaging techniques in definitively characterizing certain hepatic lesions. While conservative management might be preferred for benign lesions like hematomas, the inability to exclude malignancy often necessitates surgical intervention, as was done in this case.
Conclusion
This case highlights the importance of considering encapsulated hematoma in the differential diagnosis of complex hepatic lesions, particularly when typical features of malignancy are not conclusively demonstrated on imaging. Further advances in imaging techniques may improve preoperative diagnostic accuracy and potentially reduce unnecessary major hepatic resections for benign conditions.

A-3-7 Innovative Artificial Intelligence (AI) and Indocyanine Green-Fluorescence Imaging (ICG-FI) Combined Navigation for Visualizing Structures in Minimally Invasive Hepatectomy

◯Yusuke Uchida[1)], Takeshi Aoki[1)], Kodai Tomioka[1)], Yoshihiko Tashiro[1)], Kazuhiko Saito[1)], Shodai Nagaishi[1)], Koji Nogaki[1)], Kazuhiro Matsuda[1)], Tomokazu Kusano[1)], Akira Fujimori[1)], Nao Kobayashi[2)], Yuta Enami[1)], Hiroki Yamaue[1)]

([1)]Division of Gastroenterological & General Surgery, Department of Surgery, School of Showa medical University, [2)]Anaut Inc.)

Background
We developed a novel AI system to automatically recognize and color-display critical anatomical landmarks such as hepatic veins, Glissonean pedicle during minimally invasive hepatectomy (MIH). We present a novel navigation system combining AI and Indocyanine green-fluorescence imaging (ICG-FI).
Methods
We extracted 700 still images from 20 surgical videos of MIH (laparoscopic and robot-assisted surgeries) and performed detailed annotation of intrahepatic tubular structures. Using visual support AI (Anaut inc., Eureka), we constructed a real-time automated AI model for recognizing intrahepatic tubular structures. We analyzed MIH videos using ICG-FI with present AI and performed quantitative evaluation. Ten surgeons from junior to expert levels were surveyed after viewing original and AI-analyzed videos to assess the AI's utility in surgical recognition.
Results
The AI could simultaneously recognize hepatic veins and Glissonean pedicle in real-time during MIH (IoU=0.42, Dice=0.53, display lag ≤0.05 seconds). The AI was capable of color-coding the tubular structures without compromising their three-dimensional perception and while maintaining a distinct contrast with the hepatic parenchyma. Expert surgeons' evaluation showed a sensitivity score (from 1 to 5: Excellent) of 4.24±0.89 and a misrecognition score (from 0 to 4: Fail) of 0.12±0.33. The system successfully highlighted anatomical landmarks including hepatic veins, Glissonean pedicle, dissectible loose connective tissue, and adrenal glands. The combined navigation enabled tumor visualization, hepatic segmental mapping and common bile duct tracing using ICG-FI, while AI color-coded tubular structures. All evaluators reported that the AI and ICG-FI structural coloration display was useful for recognizing structures without causing obstruction of view or creating any sense of discomfort.
Conclusion
This innovative combined AI and ICG-FI navigation was considered valuable in enhancing surgeons' perception and enabling more refined minimally invasive hepatectomy (MIH).

A-4-1 Surgical Experience in Managing Perforated Peptic Ulcer Disease in a Philippine Provincial Hospital

◯Julie Anne G. Calusim, Brent Andrew Viray, Emmanuel Diaz, Sarah Faye Sagala, Aldous Angeles
(General Emilio Aguinaldo Memorial Hospital)

Peptic ulcer affects 4 million people around the world. Complications are encountered in 10-20% of the population and 2-14% of these ulcers will perforate. According to the latest WHO data published in 2020, Peptic Ulcer Disease in the Philippines reached 6,865 or 1.02% of total deaths. The age adjusted Death Rate is 9.95 per 100,000 population which ranks the Philippines #12 in the world. As presented in the SPHeReII: Study on prevalence of H. pylori infection by Rapid Urease Test among endoscopic patients in two communities in the Philippines, H. pylori has a prevalence of 15-30% in the urban-based hospitals. A recent study showed 50% prevalence of H. pylori in the predominantly farming communities of the Cordilleras. In the world, depending on geographical region and economic development, the prevalence of H.pylori infection in adults is reported to vary from 24% to 73% across populations, with pooled global prevalence estimated at about 50%. This study presents the experience of General Emilio Aguinaldo Memorial Hospital Department of Surgery in handling Perforated Peptic Ulcer Disease. This study documented GEAMH's experience in surgically managing PPUD in terms of the preoperative risk profile, sociodemographic profile, procedure done, and post-operative outcomes. In the near future, it is projected to have lesser cases of PPUD that will be encountered in General Surgery Training, due to the advent of early detection, screening for H.pylori, and the use of H2 blockers. Thereby, documenting an institution's surgical experience for these cases is very prudent to be written.

A-4-2 Challenges and Innovations in Gastric Cancer Surgery for Obese Patients in Okinawa

◯Yohei Okubo, Motoki Ninomiya, Ayumi Shimabukuro, Kiyotoshi Hanashiro, Masaya Asato, Taishi Nishigaki, Morihito Ota, Eijiro Dakeshita, Tuyoshi Teruya, Atsushi Nakachi
(Yuuai Medical Center)

Background: Obesity manifests increase of postoperative complications through operative difficulty, long operative time and layer amount of hemorrhage. Okinawa shows the highest obesity rate in Japan and curative surgery is accompanied with difficulty. We studied the difference of short-term outcomes between obese and non-obese patients.
Methods: This retrospective study included 123 patients who underwent gastric cancer surgery (open or laparoscopic) between April 2020 and June 2024. Visceral fat area (VFA) was measured via CT. Patients were classified into non-obese (<100 cm^2), obese (≥ 100 cm^2), and severely obese (≥ 150 cm^2) groups. Propensity Score Matching (PSM) was used to compare operative time, blood loss, and postoperative complications (Clavien-Dindo grade ≥ 3) between groups.
Results: Pre-matching, obese patients comprised 61% (77 cases), with 30% (38 cases) being severely obese. No significant differences were observed in operative time, blood loss, or complications between non-obese and obese groups. However, severely obese patients showed trends of increased blood loss (361 ml vs. 608 ml; P=0.08) and longer operative times (307 min vs. 342 min; P=0.14).
Discussion: Obesity increases surgical complexity due to excessive visceral fat and tissue fragility, complicating lymph node dissection. Preoperative 3D-CT mapping facilitates identifying the pancreas and major vessels. During surgery, establishing key landmarks on the pancreas and vessels is essential for ensuring accurate dissection and reducing operative and postoperative complications.
Conclusion: Despite the challenges, our strategies and experience have enabled comparable short-term outcomes between obese and non-obese patients.

A-4-3 Present status of diagnosis and treatment of scirrhous gastric cancer in our hospital

○Ayumi Shimabukuro, Motoki Ninomiya, Yohei Ohkubo, Kiyotoshi Hanashiro, Masaya Asato, Taishi Nishigaki, Morihito Ohta, Akira Gakiya, Tsuyoshi Teruya, Eijiro Dakeshita, Atsushi Nakachi
(Social Medical Corporation Yuuaikai Yuuai Medical Center)

【Purpose】
It's often difficult to diagnose at earlier stage and conduct R0 surgery for gastric cancer of scirrhous type. We reviewed the present status of diagnosis and treatment of scirrhous gastric cancer in our hospital.
【Subject】
We studied 56 patients with scirrhous gastric cancer treated in our hospital from January 2015 to July 2024. The median age was 68.5 (37-90) years old, and the male to female ratio was 19:9.
【Results】
1. Accuracy of scirrhous gastric cancer by imaging diagnosis: The diagnosis was reached at 73% (41patients) through first endoscopic biopsy. Upper gastrointestinal radiography was performed in 38 cases, and in all of them, lesions could be detected, and 74% (28patients) of them showed rigidity of gastric wall, stenosis, and enlargement of the fold, which are characteristic of scirrhous gastric cancer. CT scan revealed gastric cancer in 50 patients, of which 32% (16patients) were suspected to have scirrhous gastric cancer.
2. Treatment: We conducted R0 surgery for 24 cases (52%), of which 3 were conversion cases after chemotherapy. R1 and R2 surgery was underwent in 11 cases (24%), respectively.
3. Prognosis:14 patients survived and 42 died.
【Conclusion】
1. Though it's difficult to diagnose scirrhous gastric cancer at its earlier stage, Upper gastrointestinal radiography was relatively effective for it.
2. To suspect scirrhous gastric cancer is the first step. Then active Upper gastrointestinal radiography and biopsy through endoscopic examination lead is to accurate diagnosis.

A-4-4 A Case of Severe Myasthenia Gravis as irAE during SOX-Nivolumab Leading to Complete Response of Unresectable Gastric Cancer

○Minami Naka, Hiroshi Nakade, Sohei Matsumoto, Tomohiro Kunishige, Shintaro Miyao, Satoko Aoki, Takanari Tatsumi, Masahiro Soga, Masayuki Sho
(Department of Surgery, Nara Medical University)

We report an extremely rare case of myasthenia gravis as an immune-related adverse event (irAE) during SOX + nivolumab therapy and a complete response in unresectable gastric cancer. A woman in her 70s with unresectable gastric cancer (cT4b (pancreatic) N2M1 (P1), stage IVB) received the first cycle of SOX (S-1 + oxaliplatin) + nivolumab therapy; before the second cycle, she developed grade 3 hepatitis, followed by myasthenia gravis with respiratory failure, requiring intubation and subsequent The patient required endotracheal intubation and subsequent tracheostomy. The patient was treated in the intensive care unit with methylprednisolone pulse therapy (1000 mg/day for 3 days) and 5 cycles of plasmapheresis; after 2 months of careful respiratory management and rehabilitation, the tracheostomy was successfully performed and subsequently closed surgically. Despite receiving only one cycle of immunotherapy, subsequent endoscopy revealed no residual cancer, and a CT scan six months later confirmed the disappearance of metastatic lymph nodes and peritoneal disseminated nodules. While myasthenia gravis is a rare but potentially serious irAE associated with immune checkpoint inhibitors, cases of complete response after discontinuation of therapy due to a serious irAE after one cycle of treatment are extremely rare, and we reviewed the literature.

A-4-5 The oncological safety of laparoscopic gastrectomy for gastric cancer performed by non-endoscopic surgical skill qualification system-qualified surgeons

◯Ayaka Ito[1)], Susumu Shibasaki[1)], Masahiro Fujita[1)], Kazumitsu Suzuki[1)], Yusuke Umeki[1)], Akiko Serizawa[1)], Shingo Akimoto[1)], Tsuyoshi Tanaka[1)], Nakauchi Masaya [2)], Kazuki Inaba[2)], Ichiro Uyama[2,3)], Koichi Suda[1,4)]
([1)]Department of Surgery, Fujita Health University, [2)]Department of Advanced Robotic and Endoscopic Surgery, Fujita Health University, [3)]Collaborative Laboratory for Research and Development in Advanced Surgical Technology, Fujita Health University, [4)]Collaborative Laboratory for Research and Development in Advanced Surgical Intelligence, Fujita Health University)

Background
Laparoscopic gastrectomy (LG) has been commonly performed as a radical surgical treatment for gastric cancer. However, the impact of surgeon proficiency on long-term outcomes remains unclear. This study aimed to compare the long-term outcomes of LG performed by the Endoscopic Surgical Skill Qualification System (ESSQS)-qualified and non-ESSQS-qualified surgeons.
Methods
A total of 1,030 patients who underwent LG for clinical and pathological stage ≤ III gastric cancer between January 2009 and June 2019 were enrolled. When non-ESSQS-qualified surgeons performed the surgery, an ESSQS-qualified surgeon participated as a supervisory assistant. Propensity score matching (PSM) was used to compensate for patient backgrounds. A retrospective non-inferiority study was conducted with a primary endpoint being 3-year recurrence-free survival (3yRFS).
Results
After PSM, 630 patients (315 per group) were selected. The median follow-up period was 61.0 months in both groups. The 3yRFS was 84.4% in the non-ESSQS group and 81.7% in the ESSQS group, with a difference of 2.7% (95% confidence interval: -3.20 to 8.44%, $p<0.001$). Since the 95% confidence interval was above the predefined margin of -10%, the non-ESSQS group demonstrated statistical non-inferiority. No significant differences were observed between both groups in 5-year overall survival (5yOS: 80.9% vs. 79.3%, $p=0.475$) or 5-year recurrence-free survival (5yRFS: 78.5% vs. 77.4%, $p=0.627$).
Conclusion
LG performed by non-ESSQS-qualified surgeons was found to be non-inferior to that performed by ESSQS-qualified surgeons, provided that intraoperative guidance was given by an ESSQS surgeon.

A-5-1 An extremely rare case of metachronous squamous cell carcinoma of the tongue with STK11 mutation in a 21-year-old Japanese woman

◯Joji Sekine[1)], Michael Vieth[2)], Yuki Matsuoka[1)], Masao Kishikawa[1)]
([1)]Nagasaki Diagnostic Pathology Clinic, Nagasaki, Japan, [2)]Institut für Pathologie, Friedrich-Alexander-Universität Erlangen-Nürnberg, Klinikum Bayreuth, Bayreuth, Germany)

We report a case of metachronous squamous cell carcinoma (SCC) of the tongue in a 21-year-old woman. The patient had partial glossectomy in 2021. Histopathological diagnosis was SCC, well differentiated, early invasive with size of 2×2mm in resected specimen (6×4cm), and margins were negative.
Postoperative follow-up was carried out every 2-3weeks. About two years later, a leukoplakia like lesion with a size of 7×7 mm was detected 3cm ahead of the primary site. Cytology showed SCC. Work-up included CT, MRI and PET-CT, showing no invasion nor metastases. Tumour markers such as SCC and CYFRA were WNL. Our clinical diagnosis was metachronous SCC (rT1N0M0).
Surgery was carried out in June 2024. The lesion was resected with 10mm surgical margin. The surgical defect was primarily closed using local flap in combination with advanced transposition and rotation.
Histopathological diagnosis was invasive SCC, moderately differentiated. Microscopically, the size of the lesion was 6×6mm, with a depth of 3mm. The surgical margin was free of cancer: pT1, Ly0, V0, Pn0, YK-3(INFb), pNx, pMX, R0(Hm0, Vm0). Additional immunohistochemical investigations including HPV, Ki-67 and others were done.
The etiology in younger patients is poorly understood. As five patients' relatives were affected by gallbladder, pancreatic, kidney, lung, and liver carcinoma, genetic mutation was analyzed according to the rules of the HGVS nomenclature. Nucleotide and amino acid changes of p53 (c.298C>T, p.Q100*, Variant frequency 12%) and STK11 (c.1062C>G, p.F354L, Variant frequency 49%) were revealed.
Postoperative course is uneventful at present, close monitoring and additional genetic counselling are needed.

A-5-2 Treatment Strategies for Unresectable Thyroid Cancer

◯Hidetoshi Kinjo, Hitoshi Hirakawa, Mikio Suzuki
(Department of Otorhinolaryngology, Head and Neck Surgery, University of the Ryukyus)

The standard treatment for thyroid cancer is surgery. For cases of differentiated thyroid cancer that are inoperable or have distant metastases, radioactive iodine therapy is also an option. However, there were no effective treatments for medullary thyroid cancer or anaplastic thyroid cancer until now. Recently, a new treatment option, multi-tyrosine kinase inhibitors (mTKIs), has emerged. This is good news for cases that previously had no treatment options, but mTKIs come with many adverse effects, making management difficult. In recent years, new selective tyrosine kinase inhibitors have also become available. In Japan, the incidence of thyroid cancer is on the rise, and given the long prognosis even after distant metastasis, drug therapy is expected to play a significant role. Therefore, we report on drug therapy for thyroid cancer at our department.
From 2016, we treated 29 cases of thyroid cancer with molecular targeted drugs at our department. The histological types were 18 cases of papillary carcinoma, 5 cases of follicular carcinoma, 2 cases of poorly differentiated carcinoma, 2 cases of medullary carcinoma, and 2 cases of anaplastic carcinoma. The sites of metastasis (some cases had multiple sites) included 17 cases in the lungs, 11 in the bones, 10 in the mediastinum, and the others. The initial treatments included 20 cases with lenvatinib, 6 with sorafenib, 2 with vandetanib, and 1 with selpercatinib. Genetic testing was conducted in 9 cases.
We will report on the above, including a literature review.

A-5-3 Study of Permanent Tooth Formation Disorders Caused by Pediatric Malignant Tumor Treatment

◯Shotaro Nagata
(Department of Oral and Maxillofacial Surgery, Kagawa University Faculty of Medicine)

Introduction
Advancements in pediatric malignant tumor treatments have improved survival rates, leading to an increase in long-term survivors. However, late complications, including dental development disorders, have become more prevalent and significantly impact quality of life. This study investigated dental development disorders in 12 cases where chemotherapy and/or radiotherapy were administered during permanent tooth formation.
Subjects and Methods
We examined 12 pediatric patients diagnosed with malignant tumors at our institution who received treatment during permanent tooth formation. Their post-treatment conditions were evaluated using panoramic X-ray images.
Results
The cases included 2 with neuroblastoma, 1 with left mandibular fibrosarcoma, and 9 with acute myeloid leukemia. Treatment age ranged from 8 months to 6 years 9 months. Seven cases underwent chemotherapy alone, while five received both chemotherapy and radiotherapy (two with local and three with total body irradiation). Among the 12 cases, dental development disorders were observed in 11, including tooth agenesis (5 cases), root abnormalities (10 cases), and dental germ abnormalities (1 case). Six affected cases underwent chemotherapy alone, while five received both treatments. Administered anticancer drugs included cisplatin, methotrexate, cytarabine, vincristine, ifosfamide, melphalan, thiotepa, and doxorubicin.
Discussion and Conclusion
Treatment before calcification led to dental germ loss, while treatment after calcification caused abnormalities. The type of anticancer drugs may have influenced outcomes. Further case accumulation and analysis are needed.

A-5-4 Biomechanical assessment of the maxillary position after Le Fort I osteotomy using early biodegradable miniplates and screws

◯Shintaro Sukegawa, Fumi Nakai, Yasuhiro Nakai, Shotaro Nagata, Minoru Miyake
(Department of Oral and Maxillofacial Surgery, Kagawa University Faculty of Medicine)

Background: Absorbable plates have become increasingly common in orthognathic surgery, with multiple types available. Representative examples include PLLA and PLLA/PGA plates, the latter of which is expected to undergo more rapid absorption.
Purpose: This study aimed to compare the strength and biomechanical properties of PLLA monomaterial plates and PLLA/PGA absorbable plates in a LeFort I osteotomy model using an in vitro approach.
Methods: The physical properties of PLLA and PLLA/PGA plates were evaluated through tensile testing, bending testing, compression testing, and handling testing. Additionally, biomechanical assessments were conducted using a LeFort I osteotomy model, incorporating anterior compression testing and occlusal compression testing. For the anterior compression tests, models were designed with 0 mm, 3 mm, and 5 mm of anterior movement. For the occlusal compression tests, models incorporated a 2 mm downward vertical movement. Each model underwent six verification experiments. The statistical significance level was set at 0.05.
Results: Regarding basic physical properties, PLLA exhibited significantly higher strength than PLLA/PGA in tensile, bending, and compression testing. However, PLLA/PGA demonstrated superior handling properties. In biomechanical evaluations, no statistically significant differences were observed between PLLA and PLLA/PGA in either anterior compression testing or occlusal compression testing.
Conclusion: Although PLLA demonstrated higher basic physical strength compared to PLLA/PGA, no significant differences were found between the two plate types in the biomechanical evaluation of LeFort I osteotomy.

A-6-1 The evaluation of bone invasion by 18F sodium fluoride (18F-NaF) PET/CT for gingival carcinoma of the mandibul

◯Fumi Nakai
(Department of Maxillofacial Surgery, Faculty of Medicine, Kagawa University)

Introduction: 18F sodium fluoride (18F-NaF) in positron emission tomography (PET/CT) is used to detect abnormalities in bone metabolism, reflects blood flow and bone remodeling, and has the advantage of being highly time-responsive. In this study, we investigated 18F -NaF-PET/CT images taken in the preoperative diagnosis of mandibular gingival cancer and postoperative histopathological findings, and reported the usefulness of 18F-NaF-PET/CT in evaluating mandibular bone invasion.
Material and Methods: Four patients were diagnosed with mandibular gingival cancer, underwent 18F -NaF-PET/CT scans before surgery, and underwent mandibular segmental resection. We investigated whether or not 18F -NaF-PET/CT images, CT, MRI, FDG-PET/CT, and bone scintigraphy detected invasion of the jaw bone and mandibular canal.
Results: Histopathological diagnosis revealed mandibular bone invasion in all cases. Furthermore, the type of invasion in all cases was expansive, and no mandibular canal invasion was observed. CT and MRI were able to detect bone invasion, but FDG-PET/CT showed accumulation in one case, but no clear accumulation in the other three. Bone invasion could not be diagnosed in one case for which bone scintigraphy was performed. 18F -NaF-PET/CT showed accumulation in the mandible in all cases. SUVmax was measured in the region of interest (ROI), and the results showed that it was higher above the mandibular canal compared to below.
Conclusion: It is suggested that 18F -NaF-PET/CT is useful for evaluating bone invasion in gingival carcinoma of the mandibul.

A-6-2 Risk factors for post-extraction infection of mandibular third molar: A retrospective clinical study

◯Yumika Mukainaka[1)], Shintaro Sukegawa[2)], Tetsuya Nishida[1)], Minoru Miyake[2)]
([1)]Department of Oral and Maxillofacial Surgery, Kobe City Hospital Organization Kobe City Medical Center West Hospital, [2)]Department of Oral and Maxillofacial Surgery, Kagawa University School of Medicine)

Post-extraction infection is one of the most concerning complications of mandibular third molar extraction, which is the most common procedure in oral and maxillofacial surgery. We investigated risk factors for post-extraction infection by retrospectively analyzing 2,513 teeth/cases of mandibular third molar extraction (1,040 males, 1,473 females) performed at a single medical facility in Kobe, Japan from January 2014 to May 2022. The predictive variables were categorized as patient attributes, health status, and anatomic, pathological, and operative variables that may be associated with post-extraction infection. The outcome variable was the post-extraction infection rate. The post-extraction infection rate was 5.73% (144 of the 2,513 teeth), and the mean age of the patients with a post-extraction infection was 41.76 $\pm$ 16.8 years. Our analyses also revealed that the postoperative infection rate was significantly increased in patients aged $\geq$36 years. A multivariate logistic regression analysis showed that the following variables were significantly associated with post-extraction infection: preoperative antibiotic administration (odds ratio [OR] 4.68, $p<0.001$), postoperative paresthesia of the inferior alveolar nerve (OR 4.34, $p<0.001$), intraoperative hemostatic procedure (OR 1. 74, $p=0.008$), position of Pell and Gregory classifications (OR 1. 70, $p<0.001$), Winter's classification (OR 1.28, $p<0.03$), and age (OR 1.03, $p<0.001$). Oral and maxillofacial surgeons should be aware of these risk factors.

A-6-3 A retrospective clinical evaluation of medication-related osteonecrosis of the jaw (MRONJ) in our department

◯Yasuhiro Nakai
(Department of Oral and Maxillofacial Surgery, Faculty of Medicine, Kagawa University)

INTRODUCTION: Drug-related osteonecrosis of the jaw (MRONJ) is an adverse event associated with the use of bone resorption inhibitors such as bisphosphonates (BP) and denosumab (Dmab). We report a clinical review of patients diagnosed with MRONJ in our department.
SUBJECTS: A total of 182 patients diagnosed with MRONJ at the Department of Dentistry, Jaw and Oral Surgery, Kagawa University Hospital between April 2014 and March 2024 were included in the study. The study items were gender, age, site, causative agent, causative disease, risk factors, precipitating factors, Stage, treatment, and course (remission, improvement, unchanged, worsening, relapse, and death).
RESULTS: There were 62 males and 120 females, with a median age of 76 years. The incidence was predominantly in mandibular molars (94 cases). Dmab (high dose) was the most common causative agent, and minodronic acid was the most common oral BP agent. Osteoporosis was common, with Stage 2 cases accounting for the majority of cases (138). Surgical and conservative treatments were almost equally distributed. About 70% of the patients showed symptomatic improvement or remission. There was no significant difference in the progress by Stage.
CONCLUSION: As in Position Paper 2023, injectable drugs were associated with poor outcomes, and surgical treatment was associated with better outcomes. However, there are many cases in which surgical treatment cannot be chosen due to the patient's general condition, and the impact on the course of the disease needs to be further investigated.

A-6-4 Respiratory and airway changes after partial mandible resection and plate reconstruction of MRONJ: Case reports

◯Yuki Sakamoto[1)], Yuka Kojima[2)]
([1)]Kansai medical university medical hospital, [2)]Kansai medical university hospital)

【**Objective**】We investigated respiratory and airway changes in patients with MRONJ(Medication-related osteonecrosis of the jaw) who underwent mandibular partial resection and plate reconstruction. 【**Methods**】Two cases of patients diagnosed with MRONJ were included(Case 1: 80-year-old male with MRONJ after DMB therapy for multiple bone metastases from prostate cancer, Case 2: 75-year-old female with MRONJ after BP therapy for multiple bone metastases from breast cancer). Airway changes and sleep test were examined. 【**Results**】The airway became narrow and REI (respiratory event index) got worse after surgery. 【**Conclusion**】There is a possibility of worsening sleep-disordered breathing after surgery.

B-1-1 Development of a Novel Diagnostic Method for Differentiating Benign and Malignant Colorectal Elevated Lesions Using Texture Analysis.

◯Ryota Miura, Toru Tochigi, Koichi Hayano, Gaku Ohira, Tetsuro Maruyama, Yoshihiro Kurata, Hisahiro Matsubara
(Graduate School of Medicine, Chiba University)

CT colonography (CTC) is a relatively simple and minimally invasive diagnostic method for colorectal cancer screening. Radiomics, a research approach that quantitatively evaluates tumor complexity and heterogeneity from imaging data, has gained traction in the field of image analysis. In this study, we applied radiomics to CTC to investigate the feasibility of diagnosing malignancy in elevated colorectal lesions.

Between April 2021 and September 2024, we analyzed 152 cases (242 lesions) from patients who underwent simple or contrast-enhanced CTC at our institution. Inclusion criteria included elevated lesions with a maximum diameter of ≤30 mm that were pathologically diagnosed as adenoma or adenocarcinoma following surgical or endoscopic resection. Image analysis was conducted using the medical imaging software Attractive Basic CPR (PixSpace Co., Ltd.). Virtual endoscopic images were used to identify lesion sites, and regions of interest (ROIs) were created on the maximum cross-section in multiplanar reconstruction (MPR) images.

Texture analysis calculated fractal dimension (FD), skewness, kurtosis, entropy, and gray-level co-occurrence matrix (GLCM) parameters, including GLCM-correlation, GLCM-autocorrelation, GLCM-entropy, and GLCM-homogeneity. For both simple and contrast-enhanced CTC, all parameters showed significant differences between benign and malignant lesions.

B-1-2 Lateral lymph node dissection for lower advanced rectal cancer after neoadjuvant chemoradiotherapy

◯Kenji Nanishi, Tomohiro Arita, Hiroki Shimizu, Jun Kiuchi, Taisuke Imamura, Yusuke Yamamoto, Hirotaka Konishi, Ryo Morimura, Takeshi Kubota, Hitoshi Fujiwara, Atsushi Shiozaki
(Kyoto Prefectural University of Medicine)

[Background] Japanese Guidelines recommend total mesorectal excision (TME) + lateral lymph node dissection (LLND) for lower advanced rectal cancer (LARC). On the other hand, the number of patients with preoperative treatment for LARC is increasing, and LLND after preoperative treatment is difficult surgery. **[Aim]** Our surgical procedure of LLND after NACRT are presented. And We had pathologically analyze the effect of NACRT in controlling lateral lymph node metastasis and consider the indications for LLND after NACRT. **[Methods]** This study was including 99 patients with LARC performed TME+LLND. They were divided into two groups: 30 patients with upfront surgery (US group) and 69 patients with NACRT followed surgery (NACRT group), and the clinicopathological factor and short- and long-term outcomes (overall survival [OS], recurrence-free survival [RFS]) were analyzed. 186 lateral lymph nodes (12 patients with LD1 and 87 patients with LD2) were divided into 5 groups according to pretreatment and preoperative diagnosis and NACRT status, p/ypLN(+) rates in each group were calculated. **[Results]** In NACRT group, there were more males (p=0.026), cM(-) (p=0.008), and open surgery (p=0.031). The both groups had no difference in short- and long-term outcomes. The p/ypLN(+) rates were cLN(-)/US: 5.3% [2/38], cLN(+)/US: 33.3% [6/18], cLN(-)/NACRT: 0% [0/92], cLN(+)/NACRT/ycLN(-): 9.5% [2/21], cLN(+)/NACRT/ycLN(+): 29.4% [5/17]. **[Conclusion]** cLN(-) patients with NACRT might need not to be with LLND. Further studies are needed to determine the long-term outcomes of LLND after NACRT for properly selected LARC.

B-1-3 Lateral lymph node dissection by robotic surgery prevents lateral lymph node recurrence in patients with rectal cancer

◯Yusuke Omura[1)], Koki Otsuka[2)], Hiroko Taniguchi[1)], Gaku Inaguma[1)], Yosuke Kobayashi[1)], Megumu Kamishima[1)], Tsutomu Kumamoto[1)], Koji Masumori[1)], Junichiro Hiro[1)], Ichiro Uyama[2)], Koichi Suda[1)]
([1)]Department of Surgery, Fujita Health University, [2)]Department of Advanced Robotic and Endoscopic Surgery, Fujita Health University School of Medicine)

Introduction: Robotic bilateral lymph node dissection (BLLND) can regulate lateral lymph node recurrence (LLNR) compared with open surgery remains unclear. Herein, we investigated the impact of robotic versus open surgery on LLNR.
Methods: The study included 180 patients who underwent TME with BLLND for pathological stage II/III LARC. We compared the short-term outcomes by surgical approach (open or robotic surgery). Furthermore, the correlations of lateral lymph node metastasis (LLNM) with its recurrence and the clinicopathological factors including the surgical approaches were evaluated.
Results: In the robotic surgery group, incisional surgical site infection and anastomotic leakage were significantly lower than open surgery group ($p<0.0001$ and $p=0.02$, respectively). Hospital stays following surgery (open vs robotic; 24 [11–268] vs 18[9–43] days, $p = 0.003$) were significantly improved even though the total operative time was significantly longer in the robotic surgery group than in the open surgery group ($p < 0.0001$), the estimated blood loss was significantly lower ($p < 0.0001$). Overall survival (OS), disease-free survival (DFS), according to operating approach showed that there was no significant difference in OS and DFS between the open surgery group and the robotic surgery group ($p=0.25$ and $p=0.11$), but no LLNR was observed in the robotic surgery group. The site of recurrence was 263P in 2 patients, 263D in 12 patients, and 283 in 2 patients.
Conclusions: Robotic approach in rectal cancer surgery can provide more accurate BLLND, which may lead to better control in LLNR than open approach.

B-1-4 A case report of Robot-assisted high anterior resection for rectal cancer complicated with Leriche syndrome

◯Masahiro Takahashi, Nobuyasu Yoshimoto, Ken Isikawa, Satoru Takayama, Masaki Sakamoto, Keisuke Tomoda, Hiroto Suzuki, Mari Fukuda, Masataka Nakano, Hisanori Kani
(Nagoya Tokushukai General Hospital)

In Leriche syndrome, which is characterized by chronic arterial occlusion extending from the lower abdominal aorta to the iliac artery, blood flow to the pelvis and lower extremities is maintained through collateral blood arteries. In patients with Leriche syndrome, surgery for rectal cancer requires much attention to maintenance of adequate blood flow. Here, we present the case report of robot-assisted high anterior resection of rectal cancer in a patient with Leriche syndrome. A 64-year-old man with a 10-year history of Leriche syndrome, presented to the previous hospital with a positive fecal occult blood test. He was referred for the treatment of rectal cancer that was diagnosed with colonoscopy and biopsy examination. Preoperative contrast-enhanced computed tomography revealed the presence of collateral blood flow to the right internal iliac artery area. Therefore, we planned to resect the rectal cancer by superior rectal arterial dissection followed by anastomotic reconstruction. To avoid damage to the inferior epigastric artery which would serve as a collateral blood artery to the lower extremity during port insertion, the course of the inferior epigastric artery was marked with ultrasonography before surgery. Intraoperative assessment of blood flow was performed with indocyanine green fluorescence imaging. The patient was discharged on postoperative day 11 without major complications. The present case suggests that robot-assisted surgery for colorectal cancer can be safely performed in Leriche syndrome patients with careful preoperative and intraoperative blood flow assessment.

B-1-5 Association of sulfur-metabolizing bacteria in colorectal cancer with KRAS mutation

◯Satoshi Shimamura[1)], Kenji Fujiyoshi[1)], Tomoya Sudo[1)], Yuki Hoshiko[2)], Miki Okuno[2)], Yoshitoshi Ogura[2)], Takahiro Shigaki[1)], Naohiro Yoshida[1)], Kenichi Koshi[1)], Takefumi Yoshida[1)], Fumihiko Fujita[1)]

([1)]Department of surgery, Kurume University School of Medicine, [2)]Division of Microbiology, Department of Infectious Medicine, Kurume University School of Medicine)

Background: Gut microbiota significantly influence colorectal cancer (CRC) progression. Hydrogen sulfide, produced in excess by sulfur-metabolizing bacteria (SMB), is implicated in inflammation and DNA damage within intestinal epithelial cells. Nonetheless, the association between SMB and CRC remains to be thoroughly elucidated.

Methods: This study involved 64 patients who underwent CRC resection. DNA extracted from resected specimens was amplified using primers targeting dsrA gene, integral to sulfur metabolism. Patients were classified into SMB-positive and SMB-negative groups for comparative analysis.

Results: A significantly higher prevalence of SMB-positive cases was observed in tumor tissues compared to normal mucosa (37 cases [58%] in tumor vs. 15 cases [23%] in normal mucosa, P=0.03). CRC with KRAS mutation was notably higher in the SMB-positive group within tumor tissues (13 cases [35%] vs. 2 cases [7%] in the negative group, P=0.01). Whereas, age, sex, tumor site, stage, and tumor markers were not significant differences between SMB-positive and SMB-negative groups.

Conclusions: Based on the strength of this study investigating tumor tissues rather than fecal samples to explore the SMB and CRC relationship, our findings demonstrated a higher prevalence of SMB in tumor tissues, suggesting a potential role in CRC pathogenesis and invasion. Additionally, the higher frequency of KRAS mutations in the SMB-positive tumor indicates that SMB in the tumor might be an influencing factor in genetic alterations promoting CRC progression.

B-2-1 Successful management of splenic artery dissection after sigmoid colon perforation in vascular Ehlers-Danlos syndrome

◯Mizuki Tanaka, Yuichiro Kohara, Shunsuke Doi, Satoshi Yasuda, Minako Nagai, Kota Nakamura, Yasuko Matsuo, Takeshi Sakata, Masayuki Sho
(Department of Surgery, Nara Medical University)

Background: Ehlers-Danlos syndrome (EDS) is a genetic disorder characterized by systemic connective tissue fragility. Among its 13 subtypes, vascular EDS (vEDS) is associated with collagen abnormalities, leading to arterial rupture and intestinal perforation. We report a case of a man with vEDS who survived a ruptured dissecting splenic artery aneurysm triggered by sigmoid colon perforation.
Case Presentation: A 48-year-old man with a genetic diagnosis of vEDS at age 43 presented with sudden severe lower abdominal pain. Computed tomography (CT) revealed fluid and free air around the sigmoid colon, indicating perforation. Emergency Hartmann's procedure was performed. The resected specimen showed a 2-cm depressed lesion at the perforation site, with histopathology revealing an abscess, serosal exudate, and thinning of the intrinsic muscular layer. The postoperative course was initially uneventful. However, on day nine, the patient developed sudden upper abdominal pain. CT revealed intra-abdominal hemorrhage from a newly formed, dissecting splenic artery aneurysm, distant from the surgical site. Urgent transcatheter arterial embolization was performed. Despite concerns about complications, embolization of the splenic and common hepatic arteries was necessary to control bleeding. Angiography confirmed preserved hepatic blood flow via collateral pathways. The patient recovered well and was discharged on postoperative day 19.
Conclusions: vEDS can cause arterial rupture after intestinal surgery, necessitating careful postoperative management. Close collaboration with interventional radiologists is crucial for the prompt treatment of vascular complications.

B-2-2 A case of necrotizing fasciitis caused by rectal cancer.

◯Jiro Sato, Toshiyuki Enomoto, Sayaka Nagao, Nanako Kakizaki, Kenjiro Ishii, Yusuke Akimoto, Koji Asai, Manabu Watanabe, Toshihisa Saida
(Ohashi Hospital)

The patient was a 70-year-old man. He underwent preoperative chemoradiotherapy for rectal cancer, cT3, cN1a, cM0, cStage IIIB. But, invasion into the piriformis muscle was detected, making difinitive surgery difficult. Subsequently, at his own request, chemotherapy was discontinued, and palliative care was initiated.
This time, he was emergency transported to our hospital due to difficulty in movement caused by severe pain in his right lower limb. On physical examination, his right lower limb was swollen with accompanying warmth and CT revealed air density extending to the buttocks and hamstrings. We diagnosed him with necrotizing fasciitis of the right lower limb due to rectal cancer, and immediately performed debridement and colostomy. After that, multiple debridement procedures were performed to control infection, and the patient's symptoms improved, so he was discharged on the 47th postoperative day.
Necrotizing fasciitis is a rapidly progressing infectious disease caused by bacterial infection of the superficial fascia between the subcutaneous fat tissue and the fascia proper. In addition, the mortality rate is high, and many cases require amputation of the affected limb, leading to poor functional prognosis. Therefore, early and appropriate treatment is important.
We experienced a case of necrotizing fasciitis caused by rectal cancer. We would like to report with some literature review.

B-2-3 Short and Long-term Outcomes of Laparoscopic Surgery for Non-obstructive Endoscopically Impassable Colorectal Cancer: A Comparative Study with Open Surgery

◯Takumi Hasegawa[1)], Tomonori Akagi[1)], Yuki Shitomi[1)], Takahiro Hiratsuka[2)], Yohei Kono[1)], Tomotaka Shibata[1)], Shigeo Ninomiya[1)], Yoshitake Ueda[2)], Hidehumi Shiroshita[3)], Tsuyoshi Etoh[4)], Masafumi Inomata[1)]

([1)]Department of Gastroenterological and Pediatric Surgery, Faculty of Medicine, Oita University, [2)]Department of Comprehensive Surgery for Community Medicine, Oita University Faculty of Medicine, [3)]Department of Advanced medical personnel nurturing, Faculty of Medicine, Oita University, [4)]Research Center for GLOBAL and LOCAL Infectious Diseases (RCGLID), Oita University)

[Background] While laparoscopic surgery (Lap) has become a standard procedure for colorectal cancer, open surgery (Op) is often chosen for cases with bowel obstruction. However, the efficacy of laparoscopic surgery for cases where normal bowel preparation is impossible due to endoscopic impassability remains insufficiently verified.
[Methods] Among 885 colorectal cancer patients who underwent surgery at our institution from 2009 to 2020, we retrospectively analyzed 109 cases (Lap: 82, Op: 27) with non-obstructive endoscopically impassable tumors, comparing their short-term and long-term outcomes.
[Results] The Op group had more female patients (66.7% vs 42.7%, p=0.045) and higher CEA levels (median: 23.7 vs 6.5 ng/mL, p=0.023). The Op group also had significantly more T4b cases (59.3% vs 1.2%, p<0.001), N+ cases (73.1% vs 46.2%, p=0.02), and distant metastases (55.6% vs 20.7%, p=0.001). While operative time was similar (median: Lap 245.5 vs Op 236 min, p=0.89), the Lap group had significantly less blood loss (median: 55.0g vs 430g, p<0.001). The Lap group showed shorter hospital stays (median: 14.5 vs 18 days, p=0.009) and lower postoperative ileus rates (1.2% vs 18.5%, p=0.018). Three-year overall survival for Stage II/III cases was better in the Lap group (93.0% vs 72.7%, p=0.02).
[Conclusion] Laparoscopic surgery for non-obstructive endoscopically impassable colorectal cancer is feasible and effective with appropriate patient selection.

B-2-4 Efficacy of robotic-assisted surgery for colon cancer: Future perspectives through short-term outcomes using retrospective analysis

◯Mai Kasai, Kenta Kasahara, Gentaro Fukushima, Ryutaro Udo, Tomoya Tago, Junichi Mazaki, Kenichi Iwasaki, Hiroyuki Koga, Akishige Kanazawa, Yuichi Nagakawa
(Tokyo Medical University)

Background: In recent years, robotic-assisted surgery (RALS) for colon cancer has become increasingly common. However, reports comparing RALS and conventional laparoscopic surgery (CLS) for colon cancer remain limited, and we need to establish further evidence. This study aimed to compare the short-term outcomes of RALS and CLS for colon cancer.
Methods: We retrospectively analyzed the short-term outcomes of 248 cases of minimally invasive surgery for colon cancer (appendix to sigmoid colon) performed from February 2021 to May 2024, comparing the CLS group (125 cases) and the RALS group (123 cases).
Results: There were no statistically significant differences in the baseline characteristics between the two groups such as age, sex, tumor location, and pStage. The short-term outcomes showed a longer operative time (228 min vs. 263 min, $p < 0.01$), a more extensive lymph node dissection (D3, 58.4% vs. 72.3%, $p = 0.013$), a greater number of harvested lymph nodes (18.9 vs. 22.6, $p = 0.01$), a longer distal margin (DM) (72.1 mm vs. 81.5 mm, $p = 0.105$), a shorter hospital stay (20.0 days vs. 11.6 days, $p = 0.022$) in the RALS group, and postoperative complications (Clavien-Dindo grade > 2) (16.8% vs. 20.3%, $p = 0.475$) were comparable.
Conclusions: Although the RALS group resulted in a longer operative time compared to the CLS group, it showed no significant difference in postoperative complications, and a shorter hospital stay. Moreover, the more effective lymphadenectomy in the RALS group may lead to a better long-term prognosis.

B-2-5 A study of four cases of inter sigmoid hernia treated with single-port laparoscopic surgery.

◯Machi Shibata, Ryoji Makizumi, Hiro Nishizawa, Daisuke Sasaki, Taro Hamabe, Asako Fukuoka, Takehito Otsubo, Shinya Mikami

(Department of Gastroenterological and General Surgery, St. Marianna University School of Medicine)

Intersigmoid hernia is relatively rare, and reports of laparoscopic surgery are relatively few.
At our hospital, from January 2018 to December 2023, there were 4 cases of strangulating intestinal obstruction due to intersigmoid hernia, all of which underwent single-port laparoscopic surgery.
In addition, there was no history of abdominal surgery in all cases, and a preoperative diagnosis of intersigmoid hernia was made on CT examination. During the surgery, it was possible to preserve the intestinal tract, and the hernia orifice was closed with sutures.
In all cases, there were no complications during the course, and they were discharged in good condition, with no recurrence of internal hernia observed to date.
This time, we examined four cases of intersigmoid hernia treated with single-port laparoscopic surgery. In cases of strangulating intestinal obstruction, when the overall condition is stable, intestinal dilation is relatively mild, and working space is secured, single-port laparoscopic surgery as a diagnostic laparoscopy may be considered an option regardless of the presence of a preoperative diagnosis.

B-3-1 A case of re-expansion pulmonary edema after operation for spontaneous hemopneumothorax requiring NPPV management

◯Kazuki Ito, Takaharu Kiribayashi, Hironobu Nishimuta, Osahiko Hagiwara, Toru Nitsuma, Manabu Watanabe, Takuya Nagata, Koji Asai, Toshiyuki Enomoto, Kenjiro Ishii, Yoshihisa Saida

(Department of Surgery, Toho University Ohashi Medical Center)

In cases of hemopneumothorax, there is a tendency for lung collapse to become severe due to a large amount of intrathoracic hematoma, and this is considered to be a high risk of developing re-expansion pulmonary edema.
The patient was a 33-year-old man who was brought to the hospital complaining of chest and back pain that had been present for the past 3 days. A detailed examination revealed spontaneous hemopneumothorax. Lung collapse and pleural effusion were mild, the patient was admitted for observation. The following day, no progress was found, so the patient was discharged and scheduled for an outpatient visit 4 days later. The patient had been experiencing dyspnea since the day before, and a chest X-ray showed severe collapse of the left lung and increased pleural effusion. So we decided to perform emergency surgery. Thoracoscopic observation revealed multiple adhesions between the parietal pleura at the apex of the lung. But there was no active bleeding, so a partial lung resection including the bulla was performed. The amount of bleeding was 575 ml. After extubation, the patient experienced dyspnea and decreased oxygenation. A chest X-ray showed the entire left hypolucent lung leading to a diagnosis of re-expansion pulmonary edema and management with NPPV. The day after surgery, oxygenation and chest X-ray findings improved, making it possible to wean the patient from NPPV on the same day. He was discharged on the sixth postoperative day. We report this case together with a literature review.

B-3-2 Evaluation of Cases Undergoing Mediastinoscopy for Malignancy Diagnosis

◯Takaharu Kiribayashi[1)], Yoshihisa Saida[1)], Koji Asai[1)], Osahiko Hagiwara[1)], Hironobu Nishimuta[1,2)], Toru Niithuma[1)], Kazuki Itoh[1)], Takuya Nagata[1)], Toshiyuki Enomoto[1)], Manabu Watanabe[1)]
([1)]Department of Surgery, Toho University Ohashi Medical Center, [2)]Department of Chest Surgery, National Hospital Organization Higashisaitama National Hospital)

Background: In our department, mediastinoscopy is performed for diagnostic and therapeutic decision-making in cases where endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is not feasible or when abnormal mediastinal lymph node uptake is observed on FDG-PET/CT (PET). **Methods:** A total of 50 patients underwent mediastinoscopy between November 2007 and December 2024. Of these, 39 cases were performed for malignancy diagnosis. **Results:** The study included 23 men and 16 women, with a mean age of 71 years (range: 32-91). Among them, 33 cases were suspected of mediastinal lymph node metastasis, and 6 cases were suspected of malignant lymphoma. Malignancy was confirmed in 19 cases of mediastinal lymph node metastasis (16 lung cancer, 3 other organ cancers) and 1 case of malignant lymphoma. PET was performed in 14 cases, all showing abnormal uptake. Among them, 7 cases were positive for malignancy (6 lung cancer, 1 breast cancer), and 7 cases were negative. The mean SUV-max was 8.8 (range: 3.5-21.7), with no significant difference (p=0.14). Of the 5 patients with negative metastasis findings, 4 underwent lung cancer surgery with lobectomy, classified as stage IA, IB, IIA, and IIIA, respectively. Except for one patient who died of another disease at 26 months postoperatively, all remain recurrence-free. **Conclusion:** More than half of the cases suspected of malignant mediastinal lymph node involvement in preoperative lung cancer evaluation were negative for malignancy and eligible for surgical resection. Although an older technique, mediastinoscopy remains a valuable method for definitive diagnosis.

B-3-3 Molecular Pathological Features and Vision Towards New Treatment Strategy of Invasive Lobular Carcinoma

◯Nanaka Ozawa[1)], Sasagu Kurozumi[1,2)], Ayaka Katayama[3)], Yukako Watanabe[1)], Chikako Sekine[1)], Takayuki Shiomi[4)], Kyoichi Kaira[5)], Jun Horiguchi[1)]
([1)]Department of Breast Surgery, International University of Health and Welfare, School of Medicine, [2)]Department of General Surgical Science, Gunma University Graduate School of Medicine, [3)]Department of Diagnostic Pathology, Shizuoka Cancer Center, [4)]Department of Pathology, International University of Health and Welfare, School of Medicine, [5)]Department of Respiratory Medicine, International Medical Center, Saitama Medical University)

Background:
Invasive Lobular Carcinoma (ILC) is one of the special types of invasive breast cancer. Due to its downregulation of cell adhesion molecules, ILC exhibits sparse cancer cell density, making it prone to invade widely. In this study, we analyzed the molecular pathological features that determine the prognosis of ILC.
Methods:
Using comprehensive mRNA expression data from the public databases, we evaluated the differences in gene transcription patterns between recurrence-free cases and recurrent cases, based on bioinformatics. Additionally, we assessed expression of tumor immunity-related molecules, such as CD4 and CD8, in immune cells within the stroma of ILC tissues using multiplex fluorescent immunohistochemistry.
Results:
We identified 70 genes that are associated with the prognosis of ILC and demonstrated that the expression patterns of this gene set can predict the prognosis of ILC. Furthermore, pathway analysis using Gene ontology revealed that these genes were involved in molecular pathways related to tumor immunity. Using multiplex fluorescent immunohistochemistry, we identified that immunity-related molecules were expressed with heterogeneity, within the stroma of ILC tissues.
Conclusion:
This study revealed that several genes and molecular pathways are involved in the prognosis of ILC, suggesting that the tumor microenvironment, including intra-tumoral environment, is associated with the prognosis of ILC. Although treatment strategies specifically targeting ILC have not yet been established, the development of ILC-specific therapeutic measures is anticipated in the future.

B-3-4 Acute Care for Massive Breeding from a Breast Skin Fistula in a Breast Cancer Patient: A Case Report

◯Yuki Oka, Takuya Nagata, Gaku Nakamura, Koji Asai, Manabu Watanabe, Yoshihisa Saida
(Department of Surgery, Toho University Ohashi Medical Center)

Introduction
Breast cancer, locating near the body surface, is often detected at an early stage, and emergency treatment is rarely required. We report a case of advanced breast cancer presenting with massive bleeding that required emergency hemostasis followed by surgical treatment.
Case Report
An elderly woman in her 80s noticed swelling in her left breast six months prior but left it untreated. She experienced sudden massive bleeding from the left breast and was referred to our hospital for hemostasis. Upon arrival, a bloody discharge was observed erupting from a fistula near the nipple. Imaging studies revealed a 70mm irregular mass in the left breast with ongoing intratumoral bleeding and axillary lymphadenopathy.
Emergency surgery was planned; however, the patient had a history of pulmonary embolism and had taken warfarin for 30 years. So, we performed compression hemostasis, discontinued warfarin, and initiated heparinization. On the fourth day of hospitalization, a left mastectomy with axillary lymph node dissection was performed. Histopathology confirmed invasive ductal carcinoma (pT3N1M0, Stage IIIA), classified as luminal type (ER+/PgR+/HER2-). Postoperatively, the patient received hormone therapy with anastrozole.
Discussion
Intracystic breast carcinoma is rare, accounting for only 1.4–1.9% of all breast cancers. In this case, cancer cells proliferated within a hematoma-filled cyst wall, leading to hemorrhage via a skin fistula due to cystic compression.
Conclusion
We successfully managed intracystic breast carcinoma presenting with massive hemorrhage using compression hemostasis, anticoagulation adjustments, and subsequent mastectomy.

B-4-1 Postoperative Adjuvant Nivolumab Therapy for pStage III/IVa Advanced Esophageal Cancer Reduced Early Recurrence and Improved Prognosis

◯Issei Nagayoshi, Shinichiro Kobayashi, Shunsuke Murakami, Kunihito Matsuguma, Kazuma Kobayashi, Kengo Kanetaka, Susumu Eguchi
(Department of Surgery, Nagasaki University Graduate School of Medicine)

Introduction
The NExT trial demonstrated the efficacy of preoperative treatment for advanced esophageal cancer, yet approximately 30% of cases relapse within a year, necessitating strategies to prevent early recurrence. The CheckMate 577 trial showed that adjuvant nivolumab significantly prolonged disease-free survival after preoperative chemoradiotherapy. However, patient selection remains unclear due to uncertainties in indications and immune-related adverse events (irAEs). This study evaluates postoperative nivolumab's impact in pStage III/IVa esophageal cancer patients.
Metods
From July 2020 to June 2024, 63 patients with pStage III/IVa esophageal cancer who underwent curative surgery were analyzed. Patients were divided into two groups: those receiving postoperative nivolumab (Ad(+), n=14) and those who did not (Ad(-), n=31). Recurrence rates within one year and two-year survival rates were compared.
Results
No significant staging differences were observed. The one-year recurrence-free survival rate was significantly higher in the Ad(+) group (Ad(-) vs. Ad(+) group: 40.1% vs. 84.4%, $P < 0.01$), with prolonged median recurrence-free survival (Ad(-) vs. Ad(+) group: not reached vs. 8.4 months, $P < 0.01$). Although two-year overall survival did not significantly differ, it was higher in the Ad(+) group (Ad(-) vs. Ad(+) group: 58.1% vs. 81.8%, $P < 0.01$). IrAEs occurred in six Ad(+) cases (42.9%), with three cases showing recurrence, two of which resulted in death within two years.
Conclution
Postoperative nivolumab effectively reduced one-year recurrence in advanced esophageal cancer. However, the relatively high incidence of irAEs suggested that these events may impact the subsequent course of treatment.

B-4-2 Analysis of the Oral Environment in the Treatment of Esophageal Cancer

○Tenshi Makiyama, Yasunori Matsumoto, Takeshi Toyozumi, Akira Nakano, Tadashi Shiraishi, Koichi Hayano, Yoshihiro Kurata, Ryota Otsuka, Masaya Uesato, Hisahiro Matsubara
(Department of Frontier Surgery, Graduate School of Medicine, Chiba University)

Objective: To investigate the significance of oral health as a prognostic factor in the surgical treatment of esophageal squamous cell carcinoma (SCC).
Methods: We retrospectively analyzed 272 cases of esophageal SCC surgically treated between January 2011 and March 2019. Clinical, pathological, and preoperative oral findings were evaluated for their prognostic significance.
Results: The cohort consisted of 240 males and 32 females with a median age of 69 years (range: 38–89). The 5-year overall survival rate was 55.8%, and the 5-year recurrence-free survival rate was 50.3%. The median number of remaining teeth was 22 (range: 0–32), and 43.9% of patients had seven or more molars. Univariate analysis revealed the following significant prognostic factors: ≥7 molars ($p=0.0316$), age ≥70 years ($p=0.0008$), Brinkman index ≥700 ($p=0.0041$), PNI ≥40 ($p=0.0274$), absence of pulmonary complications ($p<0.0001$), and CAR <0.051 ($p=0.0015$).
Conclusion: The number of remaining molars may serve as a potential prognostic factor in the surgical treatment of esophageal SCC, indicating the importance of oral health in cancer treatment outcomes.

B-4-3 A case of laparoscopic transhiatal esophageal foreign body removal for esophageal perforation caused by accidental ingestion of a partial denture.

○Kosuke Isomura, Yoshitsugu Tsukamoto, Saori Umezawa, Masaki Hiwatari, Yasuhito Hisatsune, Shinya Mikami, Takehito Otsubo
(Department of Gastroenterological and General Surgery, St. Marianna University Hospital)

A woman in her 80s who accidentally swallowed a partial denture and underwent endoscopic foreign body removal at a previous hospital. However, esophageal injury was noted, and she was transferred to our hospital, where she was diagnosed with esophageal perforation. Given that the perforation was caused by the denture, conservative treatment was considered difficult. Therefore, we opted for a laparoscopic transhiatal approach.
Laparoscopic surgery was initiated. The diaphragm was incised from the left side of the esophagus, allowing entry into the thoracic cavity. The foreign body and the perforation site were identified 5 cm proximal to the esophagogastric junction. An esophagotomy was performed at this site, and the denture was successfully removed. The esophagotomy and perforation sites were sutured and closed, and the procedure was completed. The postoperative course was uneventful, and the patient was discharged in good condition.
We report a case of laparoscopic transhiatal esophageal foreign body removal for esophageal perforation caused by accidental ingestion of a partial denture, along with a brief review of the literature.

B-4-4 A case of supradiaphragmatic esophageal diverticulum resected thoracoscopically

◯Atsuhiro Ogawa, Masaki Hiwatari, Shinya Mikami, Yasuhito Hisatsune, Yoshitsugu Tsukamoto, Takehito Ootubo

(St.Marianna University Hospital,Gastroenterological Surgery)

A man in his 60s who had been diagnosed with esophageal diverticulum for more than 20 years. Several months prior to his visit, he had been experiencing chest discomfort after eating and a decrease in the amount of food he ate, and visited our hospital. Upon closer examination, a diverticulum measuring approximately 12 cm was found in the lower thoracic esophagus. There was no increase in intraesophageal pressure and no complication of achalasia. The patient was diagnosed as having symptoms caused by food residue accumulation in the esophageal diverticulum, and surgery was judged to be indicated due to his symptomatic condition. The patient underwent esophageal diverticulectomy via a right thoracoscopic approach in the supine position. After detaching the adhesion between the diverticulum and the lung parenchyma, the diverticulum base was identified and the resection line was determined. During resection, the esophageal lumen was secured using an oral endoscope, and the diverticulum was resected using an automated suture machine. The diverticulum was resected using an automated suture machine after securing the esophageal lumen using an oral endoscope. The postoperative course was good, and upper gastrointestinal angiography was performed 2 days after surgery to confirm that there was no suture insufficiency or stricture, and oral intake was started. In this case, we chose thoracoscopic diverticulectomy as a relatively safe and minimally invasive treatment for a supradiaphragmatic esophageal diverticulum, and we were able to obtain good results. We report our results with some discussion of the literature.

B-5-1 A case of a giant duodenal GIST in contract with the right kidney, resected through a collaborative surgery

◯shinichi chang[1)], Chikara Sirata[1)], Hiroko Okinaga[1)], Nobuhiro Harada[1)], Takahiko Soma[2)], Tsunekazu Hishima[3)], Yasuji Seyama[1)]

([1)]Department of Hepato-Biliary-Pancreatic Surgery, Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital, [2)]Department of Urology, Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital, [3)]Department of Pathology, Tokyo Metropolitan Cancer and Infectious Diseases Center Komagome Hospital)

【Background】 For gastrointestinal stromal tumors (GIST) that are eligible for surgical resection, the Japanese guidelines recommend complete resection while avoiding tumor rupture and preserving organ function. However, large tumors may require extended resection, necessitating careful preoperative evaluation. We report a case of a duodenal GIST adjacent to the right kidney successfully resected through a collaborative surgery with urologists.

【Case】 A 45-year-old man presented with melena and diagnosed with a 70-mm submucosal tumor in the descending part of the duodenum. Due to the risk of bleeding, the patient was transferred to our hospital. After initiating oral intake, he developed fever and an elevated inflammatory response. Endoscopic ultrasound-guided fine-needle aspiration was confirmed GIST. Imaging showed extensive contact with the right kidney and the inferior vena cava. Therefore, we planned a collaborative surgery with the Department of Urology.

【Result】 A right ureteral stent was placed as a landmark. Despite performing Kocher's maneuver, dissection was difficult due to tumor adhesion to the right kidney. A urologist then resected part of the right renal capsule, but the kidney was preserved as no invasion was found in the renal vessels or ureter. The hepatobiliary pancreatic surgeon dissected the tumor from the inferior vena cava and performed pancreatoduodenectomy. Pathology confirmed R0 resection.

【Conclusion】 A curative resection was achieved while preserving kidney function through a preparation and surgery by multiple department for a giant duodenal GIST.

B-5-2 Case report: Diaphragmatic tumor diagnosed preoperatively as liver tumor.

◯Koyo Fujitsuka, Keisuke Ida, Atsuhiro Ogawa, Atsuhito Tsuchihashi, Shinjiro Kobayashi, Satoshi Koizumi, Takehito Otsubo
(Department of Gastrointestinal and General Surgery St. Marianna University School of Medicine)

The patient is a woman in her 70s. She was referred to our department because a liver tumor was discovered during an abdominal ultrasound performed for follow-up of a gallbladder polyp. Contrast-enhanced abdominal CT revealed a 2 cm tumor in the segment 8 of the liver. Contrast enhancement was seen in the early stage of the tumor, and the enhancement persisted until the equilibrium stage. Tumor markers for hepatocellular carcinoma were within normal limits. With a preoperative diagnosis of hepatocellular carcinoma or hepatocellular adenoma, a laparoscopic partial hepatectomy was performed. However, surgical findings revealed that the tumor was not of hepatic origin but a diaphragmatic tumor, and a partial resection of the diaphragm was performed. Postoperative pathological examination revealed an inflammatory pseudotumor-like follicle/dendritic cell sarcoma.
Diaphragmatic tumors are rare and often present diagnostic difficulties, especially in differentiating them from liver tumors. In cases of liver tumors near the diaphragm without typical findings, it is important to consider diaphragmatic tumors in the differential diagnosis.

B-5-3 Retroperitoneal endoscopic approach to median arcuate ligament syndrome

◯Mari Fukuda, Satoru Takayama, Masataka Nakano, Masahiro Takahashi, Hiroto Suzuki, Ken Ishikawa, Keisuke Tomoda, Nobuyasu Yoshimoto, Masaki Sakamoto, Hisanori Kani
(Nagoya Tokushukai General Hospital)

Background: Median arcuate ligament syndrome (MALS) is commonly treated with laparoscopic ligament incision, but it's often difficult because of the limited surgical space. We here report the method of retroperitoneal endoscopic approach to MALS and its benefits.
Case presentation: A 25-year-old man with no significant past medical history presented with recurrent abdominal pain after meals. He had undergone upper and lower gastrointestinal endoscopy, and these were normal findings. Contrast-enhanced CT scan revealed celiac artery compressed at the root, without any abnormal findings at intraperitoneal organs. We made a diagnosis of symptomatic MALS, and performed following retroperitoneal endoscopic ligament incision. We laid the patient on his right side, then inserted a 12mm scope port from caudal of left 12th rib on left midaxillary line into retroperitoneal space. We expanded the retroperitoneal space with a balloon port, and inserted three more ports from left lateral abdominal region. We dissected the posterior pararenal space to detect the root of celiac artery, then incised the median arcuate ligament existing between left diaphragm and the anterior side of celiac artery. We confirmed that entire circumference of the root of celiac artery was separated from surrounding tissue.
Conclusion: In retroperitoneal endoscopic approach, we can reach the root of celiac artery with lower risk of damaging other organs such as pancreas compared to laparoscopic approach. This approach is also useful in that it's not necessary to cut left gastric vein. We consider retroperitoneal endoscopic approach makes it possible to perform more precise operations with better surgical space.

B-6-1 Presurgical lenvatinib plus pembrolizumab therapy for non-metastatic locally advanced renal cell carcinoma: Initial experience in a single-institution case series.

○Kei Tanaka, Ayumi Ekawa, Satsuki Nagamine, Yosuke Nakanishi, Takuya Yashima, Yoshiki Tsunokawa, Masaru Kamiyama, Aoi Motonaga, Tomoko Yonamine, Asuka Ashikari, Ryu Kimura, Shotaro Nakanishi, Junichi Inokuchi

(Department of Renal and Urological Surgery, University of Ryukyus)

Background: Lenvatinib plus pembrolizumab (LEN+PEM) therapy is one of the recommended regimens for the treatment of metastatic or unresectable renal cell carcinoma (RCC), but its clinical benefit as presurgical therapy remains uncertain.
Case description: We retrospectively evaluated 3 patients with non-metastatic locally advanced RCC treated with LEN+PEM as presurgical therapy and radical nephrectomy at University of Ryukyus Hospital from December 2023 to March 2025. In all cases, patients were diagnosed with cT3N0M0 renal cell carcinoma, and in two cases developed inferior vena cava (IVC) tumor thrombus. The median duration of treatment with LEN+PEM was 4 months (range, 3-5 months). In all cases, the size of tumor was decreased, adverse events included one case of Hypertension (Grade3), Platelet count decreased (Grade2), skin and subcutaneous tissue disorders (Grade2), and two cases of hypothyroidism (Grade2). In all cases, no major intraoperative complications were experienced, and surgical margins were negative. However, adhesions were encountered at the operative sites during surgery in all cases. In one case, pancreatic capsule injury was suspected and repair with tissue reinforcement was performed. No serious complications or progression were observed in the early postoperative course.
Conclusion: Presurgical LEN+PEM therapy for non-metastatic locally advanced RCC and radical nephrectomy were safety performed.

B-6-2 Implementation of a scope holder in endoscopic surgery: Implications for work system reform and surgical efficiency

○Shigeyuki Kosaka[1)], Kazuyoshi Shiga[1)], Haruka Shigemori[1)], Haruka Kirihara[1)], Shohei Hayashi[1)], Shinnosuke Harata[1)], Kawori Watanabe[1)], Tomoya Shamoto[1)], Tatsuya Tanaka[1)], Yoichi Matsuo[1)], Shuji Takiguchi[2)]

([1)]Nagoya City University East Medical Center, Department of Gastroenterological Surgery, [2)]Nagoya City University Hospital)

Background:
With increasing attention on Hatarakikata Kaikaku (work system reform), it is crucial to optimize surgical efficiency and work environment. In October 2023, we introduced a scope holder in laparoscopic surgery to reduce the burden on assistants, mainly for TAPP inguinal hernia repair, cholecystectomy and appendectomy.
Aims and methods:
This study evaluates the impact of the scope holder on surgeon workload and operative quality. We retrospectively analyzed 139 unilateral TAPP cases (April 2023-December 2024) and compared operative time and blood loss between the scope holder group (S, n=19) and the non-scope holder group (D, n=120). Assistant-free time in the S group was also measured.
Results:
The median operative time was 73 minutes in the S group and 101 minutes in the D group (p=0.0000972). Median blood loss was 2ml in the S group and 5ml in the D group (p=0.00834). The assistant's time away from the clean field ranged from a minimum of 43 minutes to a maximum of 121 minutes, with a median of 63.5 minutes.
Conclusion:
The introduction of a scope holder in TAPP procedures reduced operative time while maintaining surgical quality. This suggests that the scope holder improved surgical efficiency and supported work system reform without compromising surgical quality.

B-6-3 A novel procedure for preventing postoperative migration of mesh after transabdominal preperitoneal hernia repair (TAPP)

○Yuen Nakase, Kyoka Mouri, Masato Mitsuda, Nobuyuki Watanabe, Hitoshi Hino, Shingo Nakashima, Yasushi Suganuma, Seishirou Inaba
(Department of Digestive Surgery, Nara City Hospital)

Background: In laparoscopic transabdominal preperitoneal (TAPP) hernia repair, tack fixation of the mesh on the trapezoid of disaster (TD) is restricted to avoid postoperative pain. However, mesh migration in this area and recurrence after TAPP occur in some cases. Hence, we created an anti-sip material made of absorbable barbed suture to prevent mesh migration and avoid postoperative pain.
Methods: We created an anti-slip material as follows: An absorbable barbed suture was cut into a 2 cm length, and two threads were tied up opposite the barb with absorbable suture. During TAPP, the mesh is fixed with absorbable tacks by usual procedure. Following that, the mesh was turned over, and the four anti-slip materials were arranged on TD toward the hernia orifice. Finally, the mesh was returned to the agents, and the peritoneum was closed with a suture.
Results: We used this procedure for 120 cases of inguinal hernia, and there was no postoperative chronic pain or recurrence of hernia after a postoperative period of 36 months.
Discussion: When the mesh is pushed against the abdominal wall by intraabdominal pressure after the operation, without the materials, it may be pushed out to hernia orifice. However, with the materials, the friction force between the mesh and the abdominal wall increases, and the mesh is securely fixed in place. Furthermore, there is little risk of neuropathic pain because the devices are just put on the tissue.
Conclusion: This procedure should be useful for TAPP to prevent recurrence and to avoid postoperative chronic pain.

B-6-4 Palliative Cytoreductive Surgery for Rapidly Progressive Appendiceal Pseudomyxoma Peritonei: A Case Report

○Yuki Hayashi, Tatsuya Kinjo, Yoshihiro Miyagi, Tokurou Baba, Keita Shimata, Shinichiro Ohno, Masaaki Kuda, Hiromi Tokisawa, Karimata Hiroyuki, Mitsuhisa Takatsuki
(Department of Digestive and General Surgery, Graduate School of Medicine, University of the Ryukyus)

Background
Pseudomyxoma peritonei (PMP) is a condition characterized by the accumulation of mucinous ascites in the peritoneal cavity due to the perforation of a low-grade appendiceal mucinous neoplasm. PMP is a rare disease, with an estimated incidence of 1–2 cases per million people per year, and predominantly affects middle-aged women. Although PMP typically progresses slowly, some cases present with synchronous ovarian metastasis, leading to rapid ovarian enlargement.
Case Presentation
We report a case of rapidly progressive appendiceal PMP treated with palliative cytoreductive surgery. A 60-year-old woman developed abdominal distension three months prior to presentation, which rapidly worsened, resulting in supine intolerance and difficulty walking. Her medical history included schizophrenia. Abdominal computed tomography (CT) revealed a large volume of ascites with the scalloping sign, an enlarged appendix, and a massive ovarian tumor, leading to a diagnosis of appendiceal PMP with ovarian metastasis. The patient underwent laparotomy, including mucin drainage, appendectomy, and bilateral salpingo-oophorectomy. A total of 13.5 liters of mucinous fluid was evacuated intraoperatively, and the excised ovarian tumor weighed 3.5 kg. The postoperative clinical course was uneventful, with rapid improvement in abdominal distension. The patient regained the ability to eat and walk and was discharged home on postoperative day 7. At six months postoperatively, she remains under outpatient follow-up.
Conclusion
Palliative cytoreductive surgery may be an effective treatment option for rapidly progressive appendiceal PMP associated with a decline in activities of daily living (ADL).