4-4.

Prediction of postoperative recurrence risk and effect of chemotherapy on postoperative recurrence in patients with upper tract urothelial carcinoma by cell nucleus morphological information analysis by artificial intelligence

（社会人大学院博士課程 3 年泌尿器科学分野）
○村岡　　龍、松原　脩也、徳山　尚斗
　石田　卓也、橋本　　剛、佐竹　直哉
　並木　一典、大野　芳正
（東京医科大学分子病理学分野）
　齋藤　　彰、黒田　雅彦
（東京医科大学人体病理学分野）
　長尾　俊孝

【Background】　Upper tract urothelial carcinoma（UTUC）is a rare disease with 5% of all urothelial cancers, and a predictive model for recurrence / metastasis or therapeutic effect has not been established. Using artificial intelligence to obtain tissue cell morphological information obtained by radical surgery for UTUC, we attempted to predict the risk of postoperative recurrence and the effect of chemotherapy after recurrence.

【Subjects and Methods】　The 91 patients who underwent surgery at Tokyo Medical University Hospital from May 8, 1996 to April 13, 2018, were included into this study. The patients were categorized into four groups : recurrence, no recurrence, recurrence without adjuvant chemotherapy, and no recurrence（23, 15, 29, 24 cases, respectively）. The surgically resected HE-stained tissue of these cases was digitally imaged and We analyzed 2625 1 mm2 units of analysis target（ROI : Region of Interest）and 2,595,150 cancer cell nuclei included in the images based on machine-learning method SVM（Support Vector Machine）.

【Results】　The SVM-based prediction method separated the four groups with 97.4% accuracy. In addition, Models with 100% and 97.4% accuracy of recurrence were created in patients with and without adjuvant chemotherapy. Efficacy was predicted in 29 patients（7 with PR, 12 with SD, and 10 with PD）who were postoperative recurrence and received chemotherapy, and the accuracy was 71.1%. However, the cases of PR are concentrated in ureteral cancer and the cases of PD are concentrated in renal pelvis cancer. We analyzed whether renal pelvic cancer and ureteral cancer are morphologically distinguished, the accuracy is 98.1%. As a result, it is possible that renal pelvis cancer and ureteral cancer are separated, and there remains doubt as to the prediction of the effect of chemotherapy.

【Conclusion】　It was suggested that a machine-learning predictive model of UTUC could be constructed, and that the risk of postoperative recurrence and the effect of chemotherapy after recurrence could be predicted by cell nuclear morphological information.

4-5.

Clinical impact of conversion surgery in patients with locally advanced pancreatic cancer

（大学 : 消化器・小児外科学分野）
○瀧下　智恵、永川　裕一、小薗　真吾
　刑部　弘哲、西野　仁惠、中川　直哉
　鈴木　健太、細川　勇一、代田　智樹
　勝又　健次、土田　明彦

【Background】　Unresectable pancreatic cancer cases that were converted to resection after non-surgical treatment have been reported as conversion surgery（CS）. Long-term survival following CS has been reported. We aimed to evaluate patient outcomes following CS for locally advanced pancreatic cancer（LA-PC）.

【Materials & Methods】　We retrospectively reviewed the data of 61 patients with LA-PC who visited Tokyo Medical University Hospital between February 2010 and April 2018. We evaluated the resectability status every three months using multimodal imaging and planned CS in cases considered eligible for R0 resection.

【Results】　Among 61 patients diagnosed with LA-PC, 22 patients（36.0%）underwent CS. The conversion rate was significantly higher in cases with lower median CA19-9 values before treatment initiation and at three months after initiating non-surgical treatment（$p=0.046$, $p=0.002$）. Patients who underwent CS had significantly longer median survival time than those who did not（45.0

vs 13.0 mo, $p<0.001$).

【Conclusions】 CS may improve the prognosis of patients with LA-PC who respond to non-surgical treatment.

4-6.
LCI visibility in endoscopic finding

（社会人大学院博士課程 2 年内視鏡センター）
○河合　優佑
（大学病院：内視鏡センター）
　岩田　英里、永田　尚義、杉本　光繁
　河合　　隆

【Background】 LCI（Linked Color imaging）, one of the Image-Enhanced Endoscopy, has been reported to improve various gastroscopic findings compared to WLI（White light imaging）observations. We compared LCI and WLI for atrophy, intestinal metaplasia, giant rugae, nodular gastritis, and xanthoma, which are considered to be endoscopic gastric cancer risk factors.
【Subjects and methods】 The subjects were 64.8±13.7 years old, 27 : 26 in the sex ratio, and 53 cases taken with WLI and LCI in the stomach. As gastric cancer risk findings, observational findings of WLI and LCI were recorded for atrophic gastritis, intestinal metaplasia, giant rugae, nodular gastritis, and xanthoma. The presence or absence of *H. pylori* infection was examined using urea breath tests and *H. pylori* antibodies.
【Result】 Atrophic gastritis observed in WLI and LCI was C-0 : 24, 5, C-1 : 2, 21, C-2 : 5, 4, C-3 : 5, 4, O-1 : 9, 4, O-2 : 8,14, O-3 : 0, and 1, respectively. The visibility improvement of the atrophic gastritis and the expansion of the view range were recognized. Intestinal metaplasia was 2 and 2, respectively, and visibility improvement was recognized. The giant rugae was 4 and 4, and the visibility improvement was not recognized. Nodular gastritis was observed in 1 and 1 to improve visibility and expand the view range. Xanthoma were 7 and 7, and no improvement in visibility was observed.
【Conclusion】 In atrophic gastritis, intestinal metaplasia, and nodular gastritis, LCI had improved visibility compared to WLI. In addition, LCI had increased the visual range due to atrophic gastritis and nodular gastritis.

4-7.
Effect of Muscle Mass Loss After Esophagectomy on Prognosis of Oesophageal Cancer

（大学：東京医科大学、神奈川県立がんセンター）
○下田　陽太、尾形　高士
（神奈川県立がんセンター）
　山田　貴允、公盛　啓介、渡邉　勇人
　神尾　一樹、藤川　寛人、塩澤　　学
　森永聡一郎、大島　　貴
（大学：東京医科大学）
　刑部　弘哲、太田　喜洋、勝又　健次
　土田　明彦
（国立がん研究センター中央病院）
　林　　勉、吉川　貴己
（都立駒込病院）
　長　　晴彦

【Background】 The effect of muscle mass loss during perioperative period on prognosis is unknown. The aim of this study was to assess the effect of muscle mass loss after esophagectomy to discharge on prognosis.
【Methods】 This study retrospectively analyzed 159 patients with oesophageal cancer, underwent open right thoraco-abdominal approach esophagectomy, pathologically diagnosed as squamous cell carcinoma or adenocarcinoma, between August 2011 and October 2015. This study investigated the influence of muscle mass loss after esophagectomy to discharge on prognosis. Body composition was analyzed using bioelectrical impedance analyzer, evaluated within 1 week before surgery and at discharge.
【Results】 The median rate of muscle mass loss（RMML）was 4.38%. Patients were divided into two groups based on the RMML by cut-off 4.38（group A : less RMML, group B : more RMML）. N stage（0/1/2/3）was 41/30/6/3 in group A, and 26/26/19/8 in group B. The rate of 2/3 was significantly higher in group B. Postoperative complication rate was 31%（25/80）in group A, and 49%（37/79）in group B. The complication rate was significantly higher in group B.