

消化器外科学講座

【研究プロジェクト名および概要】

I. 消化管領域における研究

- ・ 食道癌手術後の呼吸器合併症減少を目指した革新的リスク評価法の確立
- ・ 胃 CMS 2/3 大腸癌に対する代謝関連蛋白阻害剤を用いた新規治療法の開発
- ・ 大腸癌に対する革新的治療戦略構築を目指した患者体組成に関する網羅的解析
- ・ 胃癌腹膜播種における腫瘍不均一性及び腫瘍微小環境を標的とした革新的治療法の開発
- ・ 遺伝性胃癌臨床検体の NGS 解析による新たな分子生物学的発癌メカニズムの解明
- ・ 大腸癌に対するがん免疫療法における革新的治療予測バイオマーカーの探索
- ・ 大腸癌の抗腫瘍免疫におけるニュートリエピジェネティクス
- ・ *Fusobacterium* が癌関連線維芽細胞と関連して消化器癌へ及ぼす影響のメカニズム解明
- ・ 革新的治療法開発を目指したサルコペニアと腫瘍免疫の統合的解析
- ・ *F. nucleatum* による大腸癌進展と鉄の関連

II. 肝・胆膵領域における研究

- ・ 肝癌における C5aR と PD-L1 阻害剤との相互作用を介した革新的治療の開発
- ・ MYC と PGC1 α が制御する癌代謝と腫瘍免疫を標的とした新規肝細胞癌治療法の開発
- ・ 新規免疫治療標的やバイオマーカー同定のための胃癌腹膜播種の動的免疫微小環境の解析
- ・ 糖・アミノ酸代謝シフトによる膵がん代謝制御機構の解明
- ・ がん - ストロマー代謝物クロストークによる膵癌進展メカニズムの解明
- ・ リキッドバイオプシーを用いた膵癌個別化治療のための腹膜播種予測 miRNA パネルの開発
- ・ アルコール性肝炎によるミトコンドリア PGAM5 を軸とした肝障害のメカニズム解明

III. 外科一般に関する研究

- ・ 消化器癌の発達・進展に関する癌関連遺伝子の網羅的解析とバイオマーカー探索
- ・ 消化器癌における腸内細菌叢の解明
- ・ 消化器癌におけるレトロトランスポゾンの解明
- ・ 癌代謝が消化器癌に及ぼす生理学的意義の解明
- ・ 消化器癌における癌関連線維芽細胞の機能解明と制御、癌との相互作用に関する研究

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【特殊技術・装置】

臨床: 食道・胃・大腸癌に対する完全鏡視下手術、腹腔鏡下 肝・膵切除、ダヴィンチ Si

特許: 膵臓切離断端固定クリップ (特願 2019-050488)

基礎: DNA メチル化/遺伝子発現/代謝解析、遺伝子 Knock down/Overexpression、ゲノム編集 (CRISPR-Cas9 system)、切除検体由来癌関連線維芽細胞樹立、イメージング (BZ-X 蛍光顕微鏡, IncuCyte)、マウスモデル(移植: 同所/異所, allogenic/syngenic, 発がん)、FlowCytometry/CyToF を用いた single cell 解析および sorting、三次元培養システム

【英文論文】

1. Miyoshi J, Zhu Z, Luo A, Toden S, Zhou X, Izumi D, Kanda M, Takayama T, Parker IM, Wang M, Gao F, Zaidi AH, Baba H, Kodera Y, Cui Y, Wang X, Liu Z, Goel A: A microRNA-based liquid biopsy signature for the early detection of esophageal squamous cell carcinoma: a retrospective, prospective and multicenter study. *Mol Cancer* 21:44, 2022
2. Roy S, Kanda M, Nomura S, Zhu Z, Toiyama Y, Taketomi A, Goldenring J, Baba H, Kodera Y, Goel A: Diagnostic efficacy of circular RNAs as noninvasive, liquid biopsy biomarkers for early detection of gastric cancer. *Mol Cancer* 21:42, 2022
3. Kumar V, Ramnarayanan K, Sundar R, Padmanabhan N, Srivastava S, Koiwa M, Yasuda T, Koh V, Huang KK, Tay ST, Ho SWT, Tan ALK, Ishimoto T, Kim G, Shabbir A, Chen Q, Zhang B, Xu S, Lam KP, Lum HYJ, Teh M, Yong WP, So JBY, Tan P: Single-cell atlas of lineage states, tumor microenvironment, and subtype-specific expression programs in gastric cancer. *Cancer Discov* 12:670-691, 2022
4. Xu X, Poulsen KL, Wu L, Liu S, Miyata T, Song Q, Wei Q, Zhao C, Lin C, Yang J: Targeted therapeutics and novel signaling pathways in non-alcohol-associated fatty liver/steatohepatitis (NAFL/NASH). *Signal Transduct Target Ther* 7:287, 2022
5. Arima K, Zhong R, Ugai T, Zhao M, Haruki K, Akimoto N, Lau MC, Okadome K, Mehta RS, Vayrynen JP, Kishikawa J, Twombly TS, Shi S, Fujiyoshi K, Kosumi K, Ogata Y, Baba H, Wang F, Wu K, Song M, Zhang X, Fuchs CS, Sears CL, Willett WC, Giovannucci EL, Meyerhardt JA, Garrett WS, Huttenhower C, Chan AT, Nowak JA, Giannakis M, Ogino S: Western-style diet, pks island-carrying *Escherichia coli*, and colorectal cancer: Analyses from two large prospective cohort studies. *Gastroenterology* 163:862-874, 2022
6. Qian T, Fujiwara N, Koneru B, Ono A, Kubota N, Jajoriya AK, Tung MG, Crouchet E, Song WM, Marquez CA, Panda G, Hoshida A, Raman I, Li QZ, Lewis C, Yopp A, Rich NE, Singal AG, Nakagawa S, Goossens N, Higashi T, Koh AP, Bian CB, Hoshida H, Tabrizian P, Gunasekaran G, Florman S, Schwarz ME, Hiotis SP, Nakahara T, Aikata H, Murakami E, Beppu T, Baba H, Rew W, Bhatia S, Kobayashi M, Kumada H, Fobar AJ, Parikh ND, Marrero JA, Rwema SH, Nair V, Patel M, Kim-Schulze S, Corey K, O'Leary JG, Klintmalm GB, Thomas DL, Dibas M, Rodriguez G, Zhang B, Friedman SL, Baumert TF, Fuchs BC, Chayama K, Zhu S, Chung RT, Hoshida Y: Molecular signature predictive of long-term liver fibrosis progression to inform antifibrotic drug development. *Gastroenterology* 162:1210-1225, 2022
7. Fujiwara N, Kubota N, Crouchet E, Koneru B, Marquez CA, Jajoriya AK, Panda G, Qian T, Zhu S, Goossens N, Wang X, Liang S, Zhong Z, Lewis S, Taouli B, Schwartz ME, Fiel MI, Singal AG, Marrero JA, Fobar AJ, Parikh ND, Raman I, Li QZ, Taguri M, Ono A, Aikata H, Nakahara T, Nakagawa H, Matsushita Y, Tateishi R, Koike K, Kobayashi M, Higashi T, Nakagawa S, Yamashita YI, Beppu T, Baba H, Kumada H, Chayama K, Baumert TF, Hoshida Y: Molecular signatures of long-term hepatocellular carcinoma risk in nonalcoholic fatty liver disease. *Sci Transl Med* 14:eabo4474, 2022
8. Yuge S, Nishiyama K, Arima Y, Hanada Y, Oguri-Nakamura E, Hanada S, Ishii T, Wakayama Y, Hasegawa U, Tsujita K, Yokokawa R, Miura T, Itoh T, Tsujita K, Mochizuki N, Fukuhara S: Mechanical loading of intraluminal pressure mediates wound angiogenesis by regulating the TOCA family of F-BAR proteins. *Nat Commun* 13:2594, 2022
9. Bertsimas D, Margonis GA, Sujichantararat S, Boerner T, Ma Y, Wang J, Kamphues C, Sasaki K, Tang S, Gagniere J, Dupre A, Loes IM, Wagner D, Stasinou G, Macher-Beer A, Burkhart R, Morioka D, Imai K, Ardiles V, O'Connor JM, Pawlik TM, Poultsides G, Seeliger H, Beyer K, Kaczirek K, Kornprat P, Aucejo FN, de Santibanes E, Baba H, Endo I, Lonning PE, Kreis ME, Weiss MJ, Wolfgang CL, D'Angelica M: Using artificial intelligence to find the optimal margin width in hepatectomy for colorectal cancer liver metastases. *JAMA surgery* 157:e221819, 2022
10. Okamura A, Yamamoto H, Watanabe M, Miyata H, Kanaji S, Kamiya K, Kakeji Y, Doki Y, Kitagawa Y: Association between preoperative HbA1c levels and complications after esophagectomy: Analysis of 15,801 esophagectomies from the national clinical database in Japan. *Ann Surg* 276:e393-e399, 2022
11. Okuno K, Tokunaga M, Kinugasa Y, Baba H, Kodera Y, Goel A: A transcriptomic liquid biopsy assay for predicting resistance to neoadjuvant therapy in esophageal squamous cell carcinoma. *Ann Surg* 276:101-110, 2022
12. Yoshida N, Eto K, Kurashige J, Izumi D, Sawayama H, Horinouchi T, Iwatsuki M, Baba Y, Miyamoto Y, Baba H: Comprehensive analysis of multiple primary cancers in patients with esophageal squamous cell carcinoma undergoing esophagectomy. *Ann Surg* 276:305-311, 2022
13. Sezaki M, Hayashi Y, Nakato G, Wang Y, Nakata S, Biswas S, Morishima T, Fakruddin M, Moon J, Ahn S, Kim P, Miyamoto Y, Baba H, Fukuda S, Takizawa H: Hematopoietic stem and progenitor cells integrate microbial signals to promote post-inflammation gut tissue repair. *EMBO J* 41:e110712, 2022
14. Ugai T, Haruki K, Vayrynen JP, Borowsky J, Fujiyoshi K, Lau MC, Akimoto N, Zhong R, Kishikawa J, Arima K, Shi SS, Zhao M, Fuchs CS, Zhang X, Giannakis M, Song M, Nan H, Meyerhardt JA, Wang M, Nowak JA, Ogino S: Coffee intake of colorectal cancer patients and prognosis according to histopathologic lymphocytic reaction and T-cell infiltrates. *Mayo Clin Proc* 97:124-133, 2022
15. Olthof PB, Buettner S, Andreatos N, Wang J, Loes IM, Wagner D, Sasaki K, Macher-Beer A, Kamphues C, Pozios I, Seeliger H, Morioka D, Imai K, Kaczirek K, Pawlik TM, Poultsides G, Burkhart R, Endo I, Baba H, Kornprat P, Aucejo FN, Lonning PE, Beyer K, Weiss MJ, Wolfgang CL, Kreis ME, Margonis GA: KRAS alterations in colorectal liver metastases: shifting to exon, codon, and point mutations. *Br J Surg* 109:804-807, 2022
16. Liu Y, Baba Y, Ishimoto T, Gu X, Zhang J, Nomoto D, Okadome K, Baba H, Qiu P: Gut microbiome in gastrointestinal cancer: a friend or foe? *Int J Biol Sci* 18:4101-4117, 2022
17. Kobayashi K, Suyama K, Katsuya H, Izawa N, Uenosono Y, Hu Q, Kusumoto T, Otsu H, Orita H, Kawanaka H, Shibao K, Koga S, Shimokawa M, Makiyama A, Saeki H, Oki E, Baba H, Mori M, group Ks: A phase II multicenter trial assessing the efficacy and safety of first-line S-1 + ramucirumab in elderly patients with advanced/recurrent gastric cancer: KSCC1701. *Eur J Cancer* 166:279-286, 2022
18. Wada Y, Shimada M, Morine Y, Ikemoto T, Saito Y, Baba H, Mori M, Goel A: A transcriptomic signature that predicts cancer recurrence after hepatectomy in patients with colorectal liver metastases. *Eur J Cancer* 163:66-76, 2022
19. Nomoto D, Baba Y, Liu Y, Tsutsuki H, Okadome K, Harada K, Ishimoto T, Iwatsuki M, Iwagami S, Miyamoto Y, Yoshida N, Watanabe M, Moroishi T, Komohara Y, Sawa T, Baba H: *Fusobacterium nucleatum* promotes esophageal squamous cell carcinoma progression via the NOD1/RIPK2/NF-kappaB pathway. *Cancer Lett* 530:59-67, 2022
20. Yamane T, Kanamori Y, Sawayama H, Yano H, Nita A, Ohta Y, Hinokuma H, Maeda A, Iwai A, Matsumoto T, Shimoda M, Niimura M, Usuki S, Yasuda-Yoshihara N, Niwa M, Baba Y, Ishimoto T, Komohara Y, Sawa T, Hirayama T, Baba H, Moroishi T: Iron accelerates *Fusobacterium nucleatum*-induced CCL8 expression in macrophages and is associated with colorectal cancer progression. *JCI Insight* 7:e156802, 2022
21. Lan C, Kitano Y, Yamashita YI, Yamao T, Kajiyama K, Yoshizumi T, Fukuzawa K, Sugimachi K, Ikeda Y, Takamori H, Miyanari N, Hirota M, Baba H: Cancer-associated fibroblast senescence and its relation with tumour-infiltrating lymphocytes and PD-L1 expressions in intrahepatic cholangiocarcinoma. *Br J Cancer* 126:219-227, 2022
22. Wada Y, Shimada M, Morine Y, Ikemoto T, Saito Y, Baba H, Mori M, Goel A: A blood-based noninvasive miRNA

- signature for predicting survival outcomes in patients with intrahepatic cholangiocarcinoma. *Br J Cancer* 126:1196-1204, 2022
23. Horiguchi H, Kadomatsu T, Yumoto S, Masuda T, Miyata K, Yamamura S, Sato M, Morinaga J, Ohtsuki S, Baba H, Moroishi T, Oike Y: Tumor cell-derived ANGPTL2 promotes beta-catenin-driven intestinal tumorigenesis. *Oncogene* 41:4028-4041, 2022
 24. Puccini A, Poorman K, Catalano F, Seeber A, Goldberg RM, Salem ME, Shields AF, Berger MD, Battaglin F, Tokunaga R, Naseem M, Zhang W, Philip PA, Marshall JL, Korn WM, Lenz HJ: Molecular profiling of signet-ring-cell carcinoma (SRCC) from the stomach and colon reveals potential new therapeutic targets. *Oncogene* 41:3455-3460, 2022
 25. Helsley RN, Miyata T, Kadam A, Varadharajan V, Sangwan N, Huang EC, Banerjee R, Brown AL, Fung KK, Massey WJ, Neumann C, Orabi D, Osborn LJ, Schugar RC, McMullen MR, Bellar A, Poulsen KL, Kim A, Pathak V, Mrdjen M, Anderson JT, Willard B, McClain CJ, Mitchell M, McCullough AJ, Radaeva S, Barton B, Szabo G, Dasarathy S, Garcia-Garcia JC, Rotroff DM, Allende DS, Wang Z, Hazen SL, Nagy LE, Brown JM: Gut microbial trimethylamine is elevated in alcohol-associated hepatitis and contributes to ethanol-induced liver injury in mice. *elife* 11:e76554, 2022
 26. Yamamura K, Beppu T, Miyata T, Akahoshi S, Ishiko T: The impact of associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) on liver tumors with unusual indications. *Hepatobil Surg Nutr* 11:477-480, 2022
 27. Fu L, Yonemura A, Yasuda-Yoshihara N, Umemoto T, Zhang J, Yasuda T, Uchihara T, Akiyama T, Kitamura F, Yamashita K, Okamoto Y, Bu L, Wei F, Hu X, Liu Y, Ajani JA, Tan P, Baba H, Ishimoto T: Intracellular MUC20 variant 2 maintains mitochondrial calcium homeostasis and enhances drug resistance in gastric cancer. *Gastric Cancer* 25:542-557, 2022
 28. Iwatsuki M, Orita H, Kobayashi K, Hidaka S, Arigami T, Kusumoto T, Satake H, Oki E, Tsutsumi S, Tobimatsu K, Shimokawa M, Saeki H, Makiyama A, Baba H, Mori M: Phase II study of S-1 and oxaliplatin as neoadjuvant chemotherapy for locally advanced adenocarcinoma of the gastric or esophagogastric junction: KSCC1601. *Gastric Cancer* 25:180-187, 2022
 29. Matsumoto C, Iwatsuki M, Iwagami S, Morinaga T, Yamashita K, Nakamura K, Eto K, Kurashige J, Baba Y, Miyamoto Y, Yoshida N, Komohara Y, Baba H: Prophylactic laparoscopic total gastrectomy for gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS): the first report in Asia. *Gastric Cancer* 25:473-478, 2022
 30. Yamaguchi K, Boku N, Muro K, Yoshida K, Baba H, Tanaka S, Akamatsu A, Sano T: Real-world safety and effectiveness of nivolumab in Japanese patients with unresectable advanced or recurrent gastric/gastroesophageal junction cancer that has progressed after chemotherapy: a postmarketing surveillance study. *Gastric Cancer* 25:245-253, 2022
 31. Yamamoto T, Satoi S, Yamaki S, Hashimoto D, Ishida M, Ikeura T, Hirooka S, Matsui Y, Boku S, Nakayama S, Nakamaru K, Shibata N, Katsushima U, Sekimoto M: Intraperitoneal paclitaxel treatment for patients with pancreatic ductal adenocarcinoma with peritoneal dissemination provides a survival benefit. *Cancers* 14:1354, 2022
 32. Yamasaki J, Hirata Y, Otsuki Y, Suina K, Saito Y, Masuda K, Okazaki S, Ishimoto T, Saya H, Nagano O: MEK inhibition suppresses metastatic progression of KRAS-mutated gastric cancer. *Cancer Sci* 113:916-925, 2022
 33. Bu L, Yonemura A, Yasuda-Yoshihara N, Uchihara T, Ismagulov G, Takasugi S, Yasuda T, Okamoto Y, Kitamura F, Akiyama T, Arima K, Itoyama R, Zhang J, Fu L, Hu X, Wei F, Arima Y, Moroishi T, Nishiyama K, Sheng G, Mukunoki T, Otani J, Baba H, Ishimoto T: Tumor microenvironmental 15-PGDH depletion promotes fibrotic tumor formation and angiogenesis in pancreatic cancer. *Cancer Sci* 113:3579-3592, 2022
 34. Okadome K, Baba Y, Yasuda-Yoshihara N, Nomoto D, Yagi T, Toihata T, Ogawa K, Sawayama H, Ishimoto T, Iwatsuki M, Iwagami S, Miyamoto Y, Yoshida N, Watanabe M, Komohara Y, Baba H: PD-L1 and PD-L2 expression status in relation to chemotherapy in primary and metastatic esophageal squamous cell carcinoma. *Cancer Sci* 113:399-410, 2022
 35. Yusa T, Yamashita YI, Okabe H, Nakao Y, Itoyama R, Kitano Y, Kaida T, Miyata T, Mima K, Imai K, Hayashi H, Baba H: Survival impact of immune cells infiltrating peritumoral area of hepatocellular carcinoma. *Cancer Sci* 113:4048-4058, 2022
 36. Naito S, Yoshio T, Ishiyama A, Tsuchida T, Tokura J, Namikawa K, Tokai Y, Yoshimizu S, Horiuchi Y, Hirasawa T, Asari T, Mine S, Watanabe M, Ogura M, Chin K, Fukuzawa M, Itoi T, Fujisaki J: Long-term outcomes of esophageal squamous cell carcinoma with invasion depth of pathological T1a-muscularis mucosae and T1b-submucosa by endoscopic resection followed by appropriate additional treatment. *Dig Endosc* 34:793-804, 2022
 37. Qiu P, Ishimoto T, Fu L, Zhang J, Zhang Z, Liu Y: The gut microbiota in inflammatory bowel disease. *Front Cell Infect Microbiol* 12:733992, 2022
 38. Kanie Y, Okamura A, Fujihara A, Matsuo H, Maruyama S, Sakamoto K, Fujiwara D, Kanamori J, Imamura Y, Kumagai K, Watanabe M: Long-term insufficiency of oral intake after esophagectomy: Who needs intense nutritional support after esophagectomy? *Ann Nutr Metab* 78:106-113, 2022
 39. Shimizu D, Taniue K, Matsui Y, Haeno H, Araki H, Miura F, Fukunaga M, Shiraiishi K, Miyamoto Y, Tsukamoto S, Komine A, Kobayashi Y, Kitagawa A, Yoshikawa Y, Sato K, Saito T, Ito S, Masuda T, Niida A, Suzuki M, Baba H, Ito T, Akimitsu N, Kodera Y, Mimori K: Pan-cancer methylome analysis for cancer diagnosis and classification of cancer cell of origin. *Cancer Gene Ther* 29:428-436, 2022
 40. Manu KA, Harikumar KB, Ishimoto T: Editorial: Targeting pancreatic cancer: strategies and hopes. *Front Oncol* 12:873682, 2022
 41. Okamura A, Watanabe M, Mukoyama N, Ota Y, Shiraiishi O, Shimbashi W, Baba Y, Matsui H, Shinomiya H, Sugimura K, Morita M, Sakai M, Sato H, Shibata T, Nasu M, Matsumoto S, Toh Y, Shiotani A, Japan Broncho-Esophagological Society PwTESG: A nationwide survey on digestive reconstruction following pharyngolaryngectomy with total esophagectomy: A multicenter retrospective study in Japan. *Ann Gastroenterol Surg* 6:54-62, 2022
 42. Daitoku N, Miyamoto Y, Hiyoshi Y, Tokunaga R, Sakamoto Y, Sawayama H, Ishimoto T, Baba Y, Yoshida N, Baba H: Preoperative skeletal muscle status is associated with tumor-infiltrating lymphocytes and prognosis in patients with colorectal cancer. *Ann Gastroenterol Surg* 6:658-666, 2022
 43. Eto K, Yoshida N, Iwatsuki M, Iwagami S, Nakamura K, Morita K, Ikeshima S, Horino K, Shimada S, Baba H: Clinical impact of perirenal thickness on short- and long-term outcomes of gastric cancer after curative surgery. *Ann Gastroenterol Surg* 6:496-504, 2022
 44. Horino T, Tokunaga R, Miyamoto Y, Hiyoshi Y, Akiyama T, Daitoku N, Sakamoto Y, Yoshida N, Baba H: The advanced lung cancer inflammation index is a novel independent prognosticator in colorectal cancer patients after curative resection. *Ann Gastroenterol Surg* 6:83-91, 2022
 45. Miyata T, Yamashita YI, Arima K, Higashi T, Hayashi H, Imai K, Nitta H, Chikamoto A, Beppu T, Baba H: Alteration of prognostic efficacy of albumin-bilirubin grade and Child-Pugh score according to liver fibrosis in hepatocellular

- carcinoma patients with Child-Pugh A following hepatectomy. *Ann Gastroenterol Surg* 6:127-134, 2022
46. Ogawa K, Miyamoto Y, Harada K, Eto K, Sawayama H, Iwagami S, Iwatsuki M, Baba Y, Yoshida N, Baba H: Evaluation of clinical outcomes with propensity-score matching for colorectal cancer presenting as an oncologic emergency. *Ann Gastroenterol Surg* 6:523-530, 2022
 47. Sawayama H, Miyamoto Y, Yoshida N, Baba H: Essential updates 2020/2021: Colorectal diseases (benign)-current topics in the surgical and medical treatment of benign colorectal diseases. *Ann Gastroenterol Surg* 6:321-335, 2022
 48. Yamamura K, Yamashita YI, Yamao T, Kitano Y, Arima K, Miyata T, Higashi T, Hayashi H, Beppu T, Baba H: Clinical impact of atrophic changes in remnant pancreas on the development of nonalcoholic fatty liver disease after pancreaticoduodenectomy. *Ann Gastroenterol Surg* 6:555-561, 2022
 49. Yoshida K, Yasufuku I, Terashima M, Young Rha S, Moon Bae J, Li G, Katai H, Watanabe M, Seto Y, Hoon Noh S, Kwang Yang H, Ji J, Baba H, Kitagawa Y, Morita S, Nishiyama M, Kodera Y, Convo-Gc-1 Study Group FoACO: International retrospective cohort study of conversion therapy for stage IV gastric cancer 1 (CONVO-GC-1). *Ann Gastroenterol Surg* 6:227-240, 2022
 50. Nomoto D, Baba Y, Okadome K, Yagi T, Kalikawe R, Kiyozumi Y, Harada K, Eto K, Hiyoshi Y, Nagai Y, Ishimoto T, Iwatsuki M, Iwagami S, Miyamoto Y, Yoshida N, Komohara Y, Watanabe M, Baba H: Prognostic impact of PD-1 on tumor-infiltrating lymphocytes in 433 resected esophageal cancers. *Ann Thorac Surg* 113:286-294, 2022
 51. Matsumura K, Hayashi H, Uemura N, Ogata Y, Zhao L, Sato H, Shiraishi Y, Kuroki H, Kitamura F, Kaida T, Higashi T, Nakagawa S, Mima K, Imai K, Yamashita YI, Baba H: Thrombospondin-1 overexpression stimulates loss of Smad4 and accelerates malignant behavior via TGF-beta signal activation in pancreatic ductal adenocarcinoma. *Transl Oncol* 26:101533, 2022
 52. Sadahiro S, Sakamoto K, Tsuchiya T, Takahashi T, Ohge H, Sato T, Kondo K, Ogata Y, Baba H, Itabashi M, Ikeda M, Hamada M, Maeda K, Masuko H, Takahashi K, Sakamoto J, Kusano M, Hyodo I, Taguri M, Morita S: Prospective observational study of the efficacy of oral uracil and tegafur plus leucovorin for stage II colon cancer with risk factors for recurrence using propensity score matching (JFMC46-1201). *BMC Cancer* 22:170, 2022
 53. Kawata A, Imai K, Tamura Y, Kaida T, Mima K, Nakagawa S, Hayashi H, Yamashita Y, Ikeda O, Baba H: Gastrointestinal: Superior mesenteric vein aneurysm treated using interventional radiology. *J Gastroenterol Hepatol* 37:1209, 2022
 54. Horino T, Tokunaga R, Baba H: Collateral circulation from inferior mesenteric artery. *Surgery* 172:e21-e22, 2022
 55. Ono S, Adachi T, Ohtsuka T, Kimura R, Nishihara K, Watanabe Y, Nagano H, Tokumitsu Y, Nanashima A, Imamura N, Baba H, Chikamoto A, Inomata M, Hirashita T, Furukawa M, Idichi T, Shinchi H, Maruyama Y, Nakamura M, Eguchi S: Predictive factors for early recurrence after pancreaticoduodenectomy in patients with resectable pancreatic head cancer: A multicenter retrospective study. *Surgery* 172:1782-1790, 2022
 56. Sasaki K, Margonis GA, Moro A, Wang J, Wagner D, Gagniere J, Shin JK, D'Silva M, Sahara K, Miyata T, Kusakabe J, Beyer K, Dupre A, Kamphues C, Imai K, Baba H, Endo I, Taura K, Cho JY, Aucejo F, Kornprat P, Kreis ME, Kim JM, Burkhart R, David Kwon CH, Pawlik TM: Nontumor related risk score: A new tool to improve prediction of prognosis after hepatectomy for colorectal liver metastases. *Surgery* 171:1580-1587, 2022
 57. Lan C, Yamashita YI, Hayashi H, Nakagawa S, Imai K, Mima K, Kaida T, Matsumoto T, Maruno M, Liu Z, Wu X, Wei F, Baba H: High expression of bloom syndrome helicase is a key factor for poor prognosis and advanced malignancy in patients with pancreatic cancer: A retrospective study. *Ann Surg Oncol* 29:3551-3564, 2022
 58. Miyata T, Hayashi H, Baba H: ASO author reflections: Is histologic liver inflammation a predictor in patients with hepatocellular carcinoma after hepatectomy? *Ann Surg Oncol* 29:903-904, 2022
 59. Miyata T, Hayashi H, Yamashita YI, Matsumura K, Higashi T, Imai K, Nitta H, Chikamoto A, Beppu T, Baba H: The impact of histologic liver inflammation on oncology and the prognosis of patients undergoing hepatectomy for hepatocellular carcinoma. *Ann Surg Oncol* 29:893-902, 2022
 60. Morinaga T, Iwatsuki M, Yamashita K, Matsumoto C, Harada K, Kurashige J, Iwagami S, Baba Y, Yoshida N, Komohara Y, Baba H: Evaluation of HLA-E expression combined with natural killer cell status as a prognostic factor for advanced gastric cancer. *Ann Surg Oncol* 29:4951-4960, 2022
 61. Yoshida N, Eto K, Baba H: ASO author reflections: Development of useful predictive markers for postoperative morbidity aiming to improve short-term and long-term outcomes after esophageal cancer surgery. *Ann Surg Oncol* 29:614-615, 2022
 62. Yoshida N, Eto K, Baba H: ASO author reflections: Insufficient preoperative smoking cessation may deteriorate postoperative prognosis for esophageal cancer. *Ann Surg Oncol* 29:8181-8182, 2022
 63. Yoshida N, Eto K, Horinouchi T, Harada K, Sawayama H, Ogawa K, Nagai Y, Iwatsuki M, Iwagami S, Ishimoto T, Baba Y, Miyamoto Y, Baba H: Preoperative smoking cessation and prognosis after curative esophagectomy for esophageal cancer: A cross-sectional study. *Ann Surg Oncol* 29:8172-8180, 2022
 64. Yoshida N, Horinouchi T, Toihata T, Harada K, Eto K, Sawayama H, Iwatsuki M, Nagai Y, Ishimoto T, Baba Y, Miyamoto Y, Baba H: Clinical significance of pretreatment red blood cell distribution width as a predictive marker for postoperative morbidity after esophagectomy for esophageal cancer: A retrospective study. *Ann Surg Oncol* 29:606-613, 2022
 65. Daitoku N, Miyamoto Y, Hiyoshi Y, Tokunaga R, Sakamoto Y, Sawayama H, Ishimoto T, Baba Y, Yoshida N, Baba H: Activin A promotes cell proliferation, invasion and migration and predicts poor prognosis in patients with colorectal cancer. *Oncol Rep* 47:107, 2022
 66. Harada K, Yamashita K, Iwatsuki M, Baba H, Ajani JA: Intraperitoneal therapy for gastric cancer peritoneal carcinomatosis. *Expert Rev Clin Pharmacol* 15:43-49, 2022
 67. Nakamura K, Eto K, Iwagami S, Ogawa K, Sawayama H, Ishimoto T, Iwatsuki M, Baba Y, Miyamoto Y, Yoshida N, Baba H: Clinicopathological characteristics and prognosis of poorly cohesive cell subtype of gastric cancer. *Int J Clin Oncol* 27:512-519, 2022
 68. Yamane T, Sawayama H, Yoshida N, Morinaga T, Akiyama T, Eto K, Harada K, Ogawa K, Iwatsuki M, Iwagami S, Baba Y, Miyamoto Y, Baba H: Preoperative transferrin level is a novel indicator of short- and long-term outcomes after esophageal cancer surgery. *Int J Clin Oncol* 27:131-140, 2022
 69. Kitano Y, Pietrasz D, Fernandez-Sevilla E, Golse N, Vibert E, Sa Cunha A, Azoulay D, Cherqui D, Baba H, Adam R, Allard MA: Subjective difficulty scale in liver transplantation: A prospective observational study. *Transpl Int* 35:10308, 2022
 70. Watanabe M, Toh Y, Ishihara R, Kono K, Matsubara H, Murakami K, Muro K, Numasaki H, Oyama T, Ozawa S, Saeki H, Tanaka K, Tsushima T, Ueno M, Uno T, Yoshio T, Usune S, Takahashi A, Miyata H, Registration Committee for Esophageal Cancer of the Japan Esophageal S: Comprehensive registry of esophageal cancer in Japan, 2014. *Esophagus* 19:1-26, 2022
 71. Kojima T, Hara H, Tsuji A, Yasui H, Muro K, Satoh T, Ogata T, Ishihara R, Goto M, Baba H, Nishina T, Han S, Sakata

- T, Yatsuzuka N, Doi T, Kato K: First-line pembrolizumab + chemotherapy in Japanese patients with advanced/metastatic esophageal cancer from KEYNOTE-590. *Esophagus* 19:683-692, 2022
72. Murakami K, Yoshida N, Taniyama Y, Takahashi K, Toyozumi T, Uno T, Kamei T, Baba H, Matsubara H: Maximum standardized uptake value change rate before and after neoadjuvant chemotherapy can predict early recurrence in patients with locally advanced esophageal cancer: a multi-institutional cohort study of 220 patients in Japan. *Esophagus* 19:205-213, 2022
73. Oike F, Usuku H, Yamamoto E, Marume K, Takashio S, Ishii M, Tabata N, Fujisue K, Yamanaga K, Sueta D, Hanatani S, Arima Y, Araki S, Oda S, Kawano H, Soejima H, Matsushita K, Ueda M, Fukui T, Tsujita K: Utility of left atrial and ventricular strain for diagnosis of transthyretin amyloid cardiomyopathy in aortic stenosis. *ESC Heart Fail* 9:1976-1986, 2022
74. Kumamoto S, Fukuyama S, Nagano S, Yasuda K, Kitamura Y, Iwatsuki M, Baba H, Ihara T, Nakanishi Y, Nakashima Y: Fabrication of three-dimensionally deformable metal structures using precision electroforming. *Micromachines* 13:1046, 2022
75. Morito A, Kosumi K, Kubota T, Yumoto S, Matsumoto T, Mima K, Inoue M, Mizumoto T, Miyanari N, Baba H: Investigation of risk factors for postoperative seroma/hematoma after TAPP. *Surg Endosc* 36:4741-4747, 2022
76. Uemura N, Hayashi H, Baba H: Statin as a therapeutic agent in gastroenterological cancer. *World J Gastrointest Oncol* 14:110-123, 2022
77. Eto K, Yoshida N, Iwatsuki M, Iwagami S, Yamashita K, Nakamura K, Harada K, Sawayama H, Ishimoto T, Baba Y, Miyamoto Y, Baba H: Impact of type of gastrectomy on death from pneumonia in elderly patients with gastric cancer over the long term. *World J Surg* 46:425-432, 2022
78. Fujiwara D, Watanabe M, Kanie Y, Maruyama S, Sakamoto K, Okamura A, Kanamori J, Imamura Y, Mine S: Is prophylactic cervical drainage effective in patients undergoing McKeown esophagectomy reconstructed through the retrosternal route with two-field lymphadenectomy? *World J Surg* 46:1944-1951, 2022
79. Izumi D, Ida S, Hayami M, Makuuchi R, Kumagai K, Ohashi M, Watanabe M, Sano T, Nunobe S: Increased rate of serum prealbumin level after preoperative enteral nutrition as an indicator of morbidity in gastrectomy for gastric cancer with outlet obstruction. *World J Surg* 46:624-630, 2022
80. Imai K, Miyamoto Y, Tamura Y, Hayashi H, Ikeda O, Yamashita YI, Baba H: Simultaneous portal vein embolization and colorectal resection in a hybrid interventional radiology/operating suite for synchronous colorectal liver metastases. *J Gastrointest Surg* 26:1307-1310, 2022
81. Kitano Y, Yamashita YI, Matsumoto T, Kinoshita S, Itoyama R, Kaida T, Hayashi H, Imai K, Chikamoto A, Baba H: Survival impact of perioperative red blood cell transfusion during pancreatectomy in patients with pancreatic ductal adenocarcinoma: A propensity score matching analysis. *Pancreas* 51:200-204, 2022
82. Kitano Y, Hayashi H, Matsumoto T, Nakao Y, Kaida T, Mima K, Imai K, Yamashita YI, Baba H: The efficacy of anatomic resection for hepatocellular carcinoma within Milan criteria: A retrospective single-institution case-matched study. *Eur J Surg Oncol* 48:2008-2013, 2022
83. Hashimoto D, Satoi S, Yamamoto T, Yamaki S, Ishida M, Sakaguchi T, Hirooka S, Ikeura T, Inoue K, Sekimoto M: Validation of the triple-checked criteria for drain management after pancreatectomy. *J Hepatobiliary Pancreat Sci* 29:271-281, 2022
84. Kosaka H, Satoi S, Kono Y, Yamamoto T, Hirooka S, Yamaki S, Hashimoto D, Sakaguchi T, Sekimoto M: Estimation of the degree of surgical difficulty anticipated for pancreatoduodenectomy: Preoperative and intraoperative factors. *J Hepatobiliary Pancreat Sci* 29:1166-1174, 2022
85. Sakaguchi T, Satoi S, Hashimoto D, Yamamoto T, Yamaki S, Hirooka S, Ishida M, Ikeura T, Inoue K, Sekimoto M: A simple risk score for detecting radiological occult metastasis in patients with resectable or borderline resectable pancreatic ductal adenocarcinoma. *J Hepatobiliary Pancreat Sci* 29:262-270, 2022
86. Yamaki S, Satoi S, Yamamoto T, Hashimoto D, Hirooka S, Sakaguchi T, Masuda M, Shimatani M, Ikeura T, Sekimoto M: Risk factors and treatment strategy for clinical hepatico-jejunostomy stenosis defined with intrahepatic bile duct dilatation after pancreatoduodenectomy: A retrospective study. *J Hepatobiliary Pancreat Sci* 29:1204-1213, 2022
87. Amini N, Andreatos N, Margonis GA, Buettner S, Wang J, Galjart B, Wagner D, Sasaki K, Angelou A, Sun J, Kamphues C, Beer A, Morioka D, Loes IM, Antoniou E, Imai K, Pikoulis E, He J, Kaczirek K, Poultsides G, Verhoef C, Lonning PE, Endo I, Baba H, Kornprat P, F NA, Kreis ME, Christopher WL, Weiss MJ, Safar B, Burkhart RA: Mutant KRAS as a prognostic biomarker after hepatectomy for rectal cancer metastases: Does the primary disease site matter? *J Hepatobiliary Pancreat Sci* 29:417-427, 2022
88. Homma Y, Endo I, Matsuyama R, Sho M, Mizuno S, Seyama Y, Hirano S, Aono T, Kitami C, Morita Y, Takeda Y, Yoshida K, Tani M, Kaiho T, Yamamoto Y, Aoki H, Ogawa M, Niguma T, Mataka Y, Kawasaki H, Baba H, Yokomizo H, Rikiyama T, Yamaue H, Yamamoto M: Outcomes of lung metastasis from pancreatic cancer: A nationwide multicenter analysis. *J Hepatobiliary Pancreat Sci* 29:552-561, 2022
89. Satoi S, Takahara N, Fujii T, Isayama H, Yamada S, Tsuji Y, Miyato H, Yamaguchi H, Yamamoto T, Hashimoto D, Yamaki S, Nakai Y, Saito K, Baba H, Watanabe T, Ishii S, Hayashi M, Kurimoto K, Shimada H, Kitayama J: Synopsis of a clinical practice guideline for pancreatic ductal adenocarcinoma with peritoneal dissemination in Japan; Japan Peritoneal Malignancy Study Group. *J Hepatobiliary Pancreat Sci* 29:600-608, 2022
90. Usuku H, Takashio S, Yamamoto E, Yamada T, Egashira K, Morioka M, Nishi M, Komorita T, Oike F, Tabata N, Ishii M, Yamanaga K, Fujisue K, Sueta D, Arima Y, Araki S, Oda S, Misumi Y, Kawano H, Matsushita K, Ueda M, Matsui H, Tsujita K: Prognostic value of right ventricular global longitudinal strain in transthyretin amyloid cardiomyopathy. *J Cardiol* 80:56-63, 2022
91. Maruyama S, Okamura A, Kanie Y, Sakamoto K, Fujiwara D, Kanamori J, Imamura Y, Kumagai K, Watanabe M: C-reactive protein to prealbumin ratio: a useful inflammatory and nutritional index for predicting prognosis after curative resection in esophageal squamous cell carcinoma patients. *Langenbecks Arch Surg* 407:1901-1909, 2022
92. Horinouchi T, Yoshida N, Harada K, Eto K, Sawayama H, Iwatsuki M, Iwagami S, Baba Y, Miyamoto Y, Baba H: A retrospective study of preoperative malnutrition based on the Controlling Nutritional Status score as an associated marker for short-term outcomes after open and minimally invasive esophagectomy for esophageal cancer. *Langenbecks Arch Surg* 407:3367-3375, 2022
93. Matsumura M, Hasegawa K, Oba M, Yamaguchi K, Uetake H, Yoshino T, Morita S, Takahashi K, Unno M, Shimada Y, Muro K, Matsushashi N, Mori M, Baba H, Shimada M, Mise Y, Kawaguchi Y, Kagimura T, Ishigure K, Saiura A, Sugihara K, Kokudo N: A randomized controlled trial of surgery and postoperative modified FOLFOX6 versus surgery and perioperative modified FOLFOX6 plus cetuximab in patients with KRAS wild-type resectable colorectal liver metastases: EXPERT study. *Langenbecks Arch Surg* 407:1345-1356, 2022
94. Miyata T, Matsumoto T, Nakao Y, Higashi T, Imai K, Hayashi H, Nitta H, Chikamoto A, Beppu T, Yamashita YI, Baba H: Major postoperative complications are associated with early recurrence of hepatocellular carcinoma following

- hepatectomy. *Langenbecks Arch Surg* 407:2373-2380, 2022
95. Yamane T, Yoshida N, Horinouchi T, Morinaga T, Eto K, Harada K, Ogawa K, Sawayama H, Iwatsuki M, Baba Y, Miyamoto Y, Baba H: Minimally invasive esophagectomy may contribute to low incidence of postoperative surgical site infection in patients with poor glycemic control. *Langenbecks Arch Surg* 407:579-585, 2022
 96. Adachi Y, Tokunaga R, Matsumoto K, Nakao Y, Itoyama R, Kuramoto K, Karashima R, Nitta H, Tomiyasu S, Baba H, Takamori H: What are the factors predictive of postoperative complications in patients with colorectal cancer undergoing stenting as a bridge to surgery? *J Surg Oncol* 125:982-990, 2022
 97. Mima K, Imai K, Kaida T, Matsumoto T, Nakagawa S, Sawayama H, Hayashi H, Yamashita YI, Baba H: Impairment of perioperative activities of daily living is associated with poor prognosis following hepatectomy for hepatocellular carcinoma. *J Surg Oncol* 126:995-1002, 2022
 98. Hashimoto D, Satoi S, Ishikawa H, Kodera Y, Kamei K, Hirano S, Fujii T, Uemura K, Tsuchida A, Yamada S, Yamamoto T, Hirota K, Sekimoto M: Efficacy of active hexose correlated compound on survival of patients with resectable/borderline resectable pancreatic cancer: a study protocol for a double-blind randomized phase II study. *Trials* 23:135, 2022
 99. Yamamoto T, Fujii T, Hirano S, Motoi F, Honda G, Uemura K, Kitayama J, Unno M, Kodera Y, Yamaue H, Shimokawa T, Hashimoto D, Yamaki S, Yoshitomi H, Miura F, Ueno H, Sekimoto M, Satoi S, Study Group of Pancreatic Ductal Adenocarcinoma with Peritoneal M: Randomized phase III trial of intravenous and intraperitoneal paclitaxel with S-1 versus gemcitabine plus nab-paclitaxel for pancreatic ductal adenocarcinoma with peritoneal metastasis (SP study). *Trials* 23:119, 2022
 100. Hara Y, Baba Y, Toihata T, Harada K, Ogawa K, Iwatsuki M, Iwagami S, Miyamoto Y, Yoshida N, Baba H: Immune-related adverse events and prognosis in patients with upper gastrointestinal cancer treated with nivolumab. *J Gastrointest Oncol* 13:2779-2788, 2022
 101. Kanamori J, Watanabe M, Maruyama S, Kanie Y, Fujiwara D, Sakamoto K, Okamura A, Imamura Y: Current status of robot-assisted minimally invasive esophagectomy: what is the real benefit? *Surg Today* 52:1246-1253, 2022
 102. Kozuki R, Watanabe M, Toihata T, Takahashi K, Otake R, Okamura A, Imamura Y, Mine S: Treatment strategies and outcomes for elderly patients with locally advanced squamous cell carcinoma of the esophagus. *Surg Today* 52:377-384, 2022
 103. Kuroguchi T, Honda M, Takahashi K, Okamura A, Imamura Y, Yamashita K, Kamiya S, Hayami M, Mine S, Watanabe M: Clinical features and risk factors for early recurrence after esophagectomy following neoadjuvant chemotherapy for esophageal cancer. *Surg Today* 52:660-667, 2022
 104. Sakaguchi T, Satoi S, Hashimoto D, Yamamoto T, Yamaki S, Hirooka S, Ishida M, Ikeura T, Inoue K, Naganuma M, Ishikawa H, Sekimoto M: High tumor budding predicts a poor prognosis in resected duodenal adenocarcinoma. *Surg Today* 52:931-940, 2022
 105. Masuda T, Takamori H, Ogawa K, Shimizu K, Karashima R, Nitta H, Matsumoto K, Okino T, Baba H: C-reactive protein level on postoperative day 3 as a predictor of anastomotic leakage after elective right-sided colectomy. *Surg Today* 52:337-343, 2022
 106. Matsumoto T, Kitano Y, Imai K, Kinoshita S, Sato H, Shiraishi Y, Mima K, Hayashi H, Yamashita YI, Baba H: Clinical significance of preoperative inflammation-based score for the prognosis of patients with hepatocellular carcinoma who underwent hepatectomy. *Surg Today* 52:1008-1015, 2022
 107. Yamashita YI, Yamao T, Nakao Y, Miyata T, Ikegami Y, Yamane S, Ito T, Furukawa T, Cho J, Wu F, Fujie Y, Arima M, Aishima S, Ijima H, Baba H: Efficacy of a newly developed bioabsorbable pancreatic clip for distal pancreatectomy in swine. *Surg Today* 52:1109-1114, 2022
 108. Matsumura K, Yamamura K, Miyamoto H, Hara Y, Oda E, Akahoshi S, Yoshida K, Yuki H, Motohara T, Sakamoto K, Komohara Y, Beppu T: Highly advanced colorectal liver metastases successfully treated with fluorouracil plus leucovorin monotherapy and microwave ablation. *Anticancer Res* 42:1645-1651, 2022
 109. Matsumura K, Yamamura K, Oda E, Akahoshi S, Ishiko T, Miyata T, Miyamoto H, Motohara T, Sasao A, Komohara Y, Kawano H, Beppu T: Successful treatment of intrahepatic cholangiocarcinoma with liver/lung metastasis and peritoneal dissemination after liver resection. *Anticancer Res* 42:3209-3215, 2022
 110. Yamamura K, Beppu T, Miyata T, Okabe H, Nitta H, Imai K, Hayashi H, Akahoshi S: Conversion surgery for hepatocellular carcinoma following molecular therapy. *Anticancer Res* 42:35-44, 2022
 111. Arima K, Komohara Y, Uchihara T, Yamashita K, Uemura S, Hanada N, Baba H: A case of mesenteric desmoid tumor causing bowel obstruction after laparoscopic surgery. *Anticancer Res* 42:381-384, 2022
 112. Yusa T, Yamashita YI, Nitta H, Nakao Y, Itoyama R, Kitano Y, Kaida T, Miyata T, Mima K, Imai K, Hayashi H, Baba H: Efficacy of ring drape and unused sterile instruments for incisional SSI after hepatectomy. *Anticancer Res* 42:1007-1012, 2022
 113. Mitsuura C, Miyamoto Y, Ogawa K, Sawayama H, Toihata T, Harada K, Eto K, Iwatsuki M, Iwagami S, Baba Y, Yoshida N, Baba H: Successful management of anal squamous cell carcinoma with liver and ovary metastases: A case report. *In Vivo* 36:3023-3028, 2022
 114. Uchihara T, Komohara Y, Yamashita K, Arima K, Uemura S, Hanada N, Baba H: Chronic appendicitis caused by a perforating fish bone: Case report and brief literature review. *In Vivo* 36:1982-1985, 2022
 115. Kanie Y, Okamura A, Kanamori J, Imamura Y, Kamiyama R, Seto A, Shimbashi W, Sasaki T, Fukushima H, Mitani H, Watanabe M: Postoperative complications following pharyngolaryngectomy with total esophagectomy: comparison between cervical and anterior mediastinal tracheostomy. *Ann Otol Rhinol Laryngol*:34894221118421, 2022
 116. Baba Y, Nakagawa S, Toihata T, Harada K, Iwatsuki M, Hayashi H, Miyamoto Y, Yoshida N, Baba H: Pan-immune-inflammation value and prognosis in patients with esophageal cancer. *Ann Surg Open* 3:e113, 2022
 117. Yoshida N, Horinouchi T, Eto K, Harada K, Sawayama H, Imamura Y, Iwatsuki M, Ishimoto T, Baba Y, Miyamoto Y, Watanabe M, Baba H: Prognostic value of pretreatment red blood cell distribution width in patients with esophageal cancer who underwent esophagectomy: A retrospective study. *Ann Surg Open* 3:e153, 2022
 118. Yoshida N, Sasaki K, Kanetaka K, Kimura Y, Shibata T, Ikenoue M, Nakashima Y, Sadanaga N, Eto K, Tsuruda Y, Kobayashi S, Nakanoko T, Suzuki K, Takeno S, Yamamoto M, Morita M, Toh Y, Baba H: High pretreatment mean corpuscular volume can predict worse prognosis in patients with esophageal squamous cell carcinoma who have undergone curative esophagectomy. *Ann Surg Open* 3:e165, 2022
 119. Yamashita K, Komohara Y, Uchihara T, Arima K, Uemura S, Hanada N, Baba H: A rare case of perforation of a colorectal tumor by a fish bone. *Clin J Gastroenterol* 15:598-602, 2022
 120. Yumoto S, Doi K, Higashi T, Shimao Y, Ueda M, Ishihara A, Adachi Y, Ishiodori H, Honda S, Baba H: Intra-abdominal bleeding caused by amyloid transthyretin amyloidosis in the gastrointestinal tract: a case report. *Clin J Gastroenterol* 15:140-145, 2022
 121. Yumoto S, Nakagawa S, Hayashi H, Ogawa D, Shiraishi Y, Sato H, Matsumoto T, Imai K, Yamashita YI, Baba H:

- Multimodal therapy with aggressive hepatectomy, everolimus, and octreotide for metastatic pancreatic neuroendocrine neoplasm enables 10-year survival. *Clin J Gastroenterol* 15:1136-1144, 2022
122. Maeda Y, Miyamoto Y, Hiyoshi Y, Eto K, Iwatsuki M, Iwagami S, Baba Y, Yoshida N, Baba H: Surgical removal of giant pelvic liposarcoma after preoperative transcatheter arterial embolization. *Int Cancer Conf J* 11:275-279, 2022
 123. Masuda T, Takamori H, Kato M, Mitsuura C, Shiraishi Y, Itoyama R, Shimizu K, Karashima R, Nitta H, Baba H: Safety assessment of dextrin hydrogel adhesion barrier (AdSpray®) for elective laparoscopic cholecystectomy. *Laparoscopic, Endoscopic and Robotic Surgery* 5:61-65, 2022
 124. Hara Y, Nakamura K, Iwagami S, Ogawa K, Sawayama H, Iwatsuki M, Baba Y, Miyamoto Y, Yoshida N, Baba H: A case of clinical stage I gastric cancer with a schwannoma on the left supraclavicular fossa suspected as Virchow's node metastasis. *Surg Case Rep* 8:95, 2022
 125. Horino T, Miyata T, Inoue M, Ono K, Ono A, Tagayasu Y, Nomoto D, Mizumoto T, Kubota T, Miyanari N, Baba H: Shanghai fever, a fatal enteric illness, in an adult patient with neutropenia caused by treatment-related myelodysplastic syndrome: a case report. *Surg Case Rep* 8:69, 2022
 126. Sawayama H, Miyamoto Y, Ogawa K, Ohuchi M, Hisano Y, Kato M, Tubakihara H, Yoshida N, Baba H: Pathologic complete response after laparoscopic surgery following treatment with nivolumab and ipilimumab for anticancer drug-resistant MSI-high descending colon cancer: a case report and literature review. *Surg Case Rep* 8:223, 2022
 127. Tagayasu Y, Miyamoto Y, Sawayama H, Ogawa K, Kato R, Yoshida N, Mukasa A, Baba H: Rectal cancer diagnosed after resection of isolated brain metastasis. *Surg Case Rep* 8:52, 2022
 128. Nakao Y, Hayashi H, Yamashita YI, Takashi O, Matsumura K, Uemura N, Kitamura F, Itoyama R, Yusa T, Taki K, Miyata T, Higashi T, Nakagawa S, Okabe H, Imai K, Baba H: Risk factors for lymph node metastasis in patients with pancreatic neuroendocrine neoplasms. *World J Clin Oncol* 13:520-528, 2022
 129. Kosumi K, Mima K, Kanemitsu K, Tajiri T, Takematsu T, Sakamoto Y, Inoue M, Miyamoto Y, Mizumoto T, Kubota T, Miyanari N, Baba H: Self-expanding metal stent placement and pathological alterations among obstructive colorectal cancer cases. *World J Gastrointest Endosc* 14:704-717, 2022
 130. Kaida T, Hayashi H, Sato H, Kinoshita S, Matsumoto T, Shiraishi Y, Kitano Y, Higashi T, Imai K, Yamashita YI, Baba H: Assessment for the minimal invasiveness of laparoscopic liver resection by interleukin-6 and thrombospondin-1. *World J Hepatol* 14:234-243, 2022
 131. Okamura A, Yoshimizu S, Kanamori J, Imamura Y, Asari T, Nakayama I, Ogura M, Ishiyama A, Yoshio T, Chin K, Fujisaki J, Watanabe M: Treatment strategy for esophageal squamous cell carcinoma with endoscopic intramural metastasis. *Cureus* 14:e23028, 2022
 132. Kishikawa J, Ugai T, Fujiyoshi K, Chen Y, Haruki K, Liu L, Arima K, Akimoto N, Hamada T, Inamura K, Kosumi K, Twombly TS, Shi S, Lau MC, Du C, Li P, Guo C, Väyrynen JP, Väyrynen SA, Gu S, Song M, Zhang X, Dai G, Giannakis M, Drew DA, Chan AT, Fuchs CS, Meyerhardt JA, Nishihara R, Nowak JA, Ogino S, Wu K: Smoking and colorectal cancer survival in relation to tumor LINE-1 methylation levels: a prospective cohort study. *Epigenetics Communications* 2:4, 2022
 133. Usuku H, Yamamoto E, Sueta D, Noguchi M, Fujisaki T, Egashira K, Morioka M, Komorita T, Oike F, Fujisue K, Hanatani S, Arima Y, Takashio S, Oda S, Kawano H, Matsushita K, Ueda M, Matsui H, Tsujita K: Time-dependent change of relative apical longitudinal strain index in patients with wild-type transthyretin amyloid cardiomyopathy. *IJC Heart & Vasculature* 43:101146, 2022
 134. Suzuki T, Okamura A, Watanabe M, Asari T, Nakayama I, Ogura M, Ooki A, Takahari D, Yamaguchi K, Chin K: Serum squamous cell carcinoma antigen is a predictive factor of outcomes in patients with locally advanced unresectable esophageal squamous cell carcinoma treated by definitive chemoradiotherapy. *J Cancer Metastasis Treat* 8:5, 2022
 135. Wei F, Uchihara T, Yonemura A, Yasuda-Yoshihara N, Yasuda T, Semba T, Fukuda M, Akiyama T, Kitamura F, Bu L, Hu X, Fu L, Zhang J, Kariya R, Yamasaki J, Aihara K, Yamashita K, Nagano O, Okada S, Baba H, Ishimoto T: A novel tdTomato transgenic mouse model to visualize FAP-positive cancer-associated fibroblasts. *FEBS J*, 2022 Dec 24. doi: 10.1111/febs.16712. Online ahead of print.
 136. Miyamoto Y, Ogawa K, Ohuchi M, Tokunaga R, Baba H: Emerging evidence of immunotherapy for colorectal cancer. *Ann Gastroenterol Surg*, 2022 Nov 08. doi: 10.1002/ags3.12633. Online ahead of print.
 137. Miyamoto Y, Akiyama T, Kato R, Sawayama H, Ogawa K, Yoshida N, Baba H: Prognostic significance of systemic inflammation indices by KRAS Status in patients with metastatic colorectal cancer. *Dis Colon Rectum*, 2022 Feb 21. doi: 10.1097/DCR.0000000000002392. Online ahead of print.
 138. Kubo N, Yazawa S, Yokobori T, Sano R, Eguchi H, Kobayashi S, Akita H, Mitsufuji S, Yamashita YI, Nakao Y, Fujii T, Okumura T, Shibuya K, Hoshino Y, Yamada S, Hayashi M, Shimokawa M, Shirabe K: The malignant potential of pancreatic intraductal papillary mucinous neoplasm is reflected in expression levels of fucosylated glycans in alpha(1)-acid glycoprotein. *J Hepatobiliary Pancreat Sci*, 2022 Jul 1. doi: 10.1002/jhbp.1208. Online ahead of print.
 139. Sakamoto K, Beppu T, Honda G, Kotake K, Yamamoto M, Takahashi K, Endo I, Hasegawa K, Itabashi M, Hashiguchi Y, Kotera Y, Kobayashi S, Yamaguchi T, Natsume S, Tabuchi K, Kobayashi H, Yamaguchi K, Tani K, Morita S, Miyazaki M, Sugihara K: Comprehensive data of 4502 patients newly diagnosed with colorectal liver metastasis between 2015 and 2017, and prognostic data of 2427 patients newly diagnosed with colorectal liver metastasis in 2013 and 2014: Third report of a nationwide survey in Japan. *J Hepatobiliary Pancreat Sci*, 2022 Oct 18. doi: 10.1002/jhbp.1252. Online ahead of print.
 140. Hirao H, Okabe H, Masuda T, Ogawa D, Uemura N, Kuroda D, Taki K, Tomiyasu S, Hirota M, Hibi T, Baba H, Sugita H: Intestinal fluid CT level could predict pathological small bowel ischemia in small bowel obstruction. *Indian J Surg*, 2022 Aug 02. doi: 10.1007/s12262-022-03437-w. Online ahead of print.
 141. Wu X, Fan X, McMullen MR, Miyata T, Kim A, Pathak V, Wu J, Day LZ, Hardesty JE, Welch N, Dasarathy J, Allende DS, McCullough AJ, Jacobs JM, Rotroff DM, Dasarathy S, Nagy LE: Macrophage-derived MLKL in alcohol-associated liver disease: Regulation of phagocytosis. *Hepatology* 77:902-919, 2023
 142. Zhao Y, Peng F, Wang C, Murano T, Baba H, Ikematsu H, Li W, Goel A: A DNA methylation-based epigenetic signature for the identification of lymph node metastasis in T1 colorectal cancer. *Ann Surg* 277:655-663, 2023
 143. Akiyama T, Yasuda T, Uchihara T, Yasuda-Yoshihara N, Tan BJY, Yonemura A, Semba T, Yamasaki J, Komohara Y, Ohnishi K, Wei F, Fu L, Zhang J, Kitamura F, Yamashita K, Eto K, Iwagami S, Tsukamoto H, Umemoto T, Masuda M, Nagano O, Satou Y, Saya H, Tan P, Baba H, Ishimoto T: Stromal reprogramming through dual PDGFRalpha/beta blockade boosts the efficacy of anti-PD-1 immunotherapy in fibrotic tumors. *Cancer Res* 83:753-770, 2023
 144. Liu Z, Hayashi H, Matsumura K, Ogata Y, Sato H, Shiraishi Y, Uemura N, Miyata T, Higashi T, Nakagawa S, Mima K, Imai K, Baba H: Hyperglycaemia induces metabolic reprogramming into a glycolytic phenotype and promotes epithelial-mesenchymal transitions via YAP/TAZ-Hedgehog signalling axis in pancreatic cancer. *Br J Cancer* 128:844-856, 2023

145. Kosumi K, Baba Y, Yamamura K, Nomoto D, Okadome K, Yagi T, Toihata T, Kiyozumi Y, Harada K, Eto K, Sawayama H, Ishimoto T, Iwatsuki M, Iwagami S, Miyamoto Y, Yoshida N, Watanabe M, Baba H: Intratumour Fusobacterium nucleatum and immune response to oesophageal cancer. *Br J Cancer* 128:1155-1165, 2023
146. Zhang J, Fu L, Yasuda-Yoshihara N, Yonemura A, Wei F, Bu L, Hu X, Akiyama T, Kitamura F, Yasuda T, Semba T, Uchihara T, Itoyama R, Yamashita K, Eto K, Iwagami S, Yashiro M, Komohara Y, Baba H, Ishimoto T: IL-1 β derived from mixed-polarized macrophages activates fibroblasts and synergistically forms a cancer-promoting microenvironment. *Gastric Cancer* 26:187-202, 2023
147. Liu Z, Hayashi H, Matsumura K, Uemura N, Shiraiishi Y, Sato H, Baba H: Biological and clinical impacts of glucose metabolism in pancreatic ductal adenocarcinoma. *Cancers* 15:498, 2023
148. Yoshida N, Eto K, Matsumoto T, Kosumi K, Imamura Y, Iwatsuki M, Baba Y, Miyamoto Y, Watanabe M, Baba H: Omental flap wrapping around the esophagogastric anastomosis and association with anastomotic leak in esophagectomy for esophageal cancer: A propensity score-matching analysis. *J Am Coll Surg* 236:189-197, 2023
149. Yasuda T, Baba H, Ishimoto T: Cellular senescence in the tumor microenvironment and context-specific cancer treatment strategies. *FEBS J* 290:1290-1302, 2023
150. Matsui Y, Hashimoto D, Satoi S, Yamamoto T, Yamaki S, Ishida M, Hirooka S, Ikeura T, Sekimoto M: Reevaluation of regional lymph nodes in patients with pancreatic ductal adenocarcinoma in the pancreatic body and tail. *Ann Gastroenterol Surg* 7:147-156, 2023
151. Mima K, Nakagawa S, Miyata T, Yamashita YI, Baba H: Frailty and surgical outcomes in gastrointestinal cancer: Integration of geriatric assessment and prehabilitation into surgical practice for vulnerable patients. *Ann Gastroenterol Surg* 7:27-41, 2023
152. Mima K, Hayashi H, Yumoto S, Matsumoto T, Tsukamoto M, Miyata T, Nakagawa S, Nitta H, Baba H: Disability in perioperative activities of daily living is associated with worse survival outcomes following hepatic resection in patients with intrahepatic cholangiocarcinoma. *Hepatol Res* 53:135-144, 2023
153. Harada K, Matsumoto C, Toihata T, Kosumi K, Iwatsuki M, Baba Y, Ohuchi M, Eto K, Ogawa K, Sawayama H, Iwagami S, Miyamoto Y, Yoshida N, Baba H: C-Reactive protein levels after esophagectomy are associated with increased surgical complications and poor prognosis in esophageal squamous cell carcinoma patients. *Ann Surg Oncol* 30:1554-1563, 2023
154. Ikenaga N, Miyasaka Y, Ohtsuka T, Nakata K, Adachi T, Eguchi S, Nishihara K, Inomata M, Kurahara H, Hisaka T, Baba H, Nagano H, Ueki T, Noshiro H, Tokunaga S, Ishigami K, Nakamura M, Kyushu Study Group of Treatment for Pancreatobiliary C: A prospective multicenter phase II trial of neoadjuvant chemotherapy with gemcitabine plus nab-paclitaxel for borderline resectable pancreatic cancer with arterial involvement. *Ann Surg Oncol* 30:193-202, 2023
155. Morinaga T, Iwatsuki M, Yamashita K, Yasuda-Yoshihara N, Yamane T, Matsumoto C, Harada K, Eto K, Kurashige J, Ishimoto T, Baba Y, Miyamoto Y, Yoshida N, Baba H: Dynamic alteration in HLA-E expression and soluble HLA-E via Interaction with natural killer cells in gastric cancer. *Ann Surg Oncol* 30:1240-1252, 2023
156. Shimozaki K, Shinozaki E, Yamamoto N, Imamura Y, Osumi H, Nakayama I, Wakatsuki T, Ooki A, Takahari D, Ogura M, Chin K, Watanabe M, Yamaguchi K: KRAS mutation as a predictor of insufficient trastuzumab efficacy and poor prognosis in HER2-positive advanced gastric cancer. *J Cancer Res Clin Oncol* 149:1273-1283, 2023
157. Shindo Y, Nagano H, Kanai M, Kobayashi S, Wada H, Sakai D, Eguchi H, Baba H, Kamachi H, Takayama T, Ueno M, Takahashi M, Nakagami Y, Yoshimura K, Hatano E, Ioka T: Clinical outcomes of second-line chemotherapy after gemcitabine and cisplatin plus S-1 treatment for patients with advanced biliary tract cancer in the KHBO1401-3A study. *Oncol Rep* 49:41, 2023
158. Horino T, Tokunaga R, Miyamoto Y, Hiyoshi Y, Akiyama T, Daitoku N, Sakamoto Y, Yoshida N, Baba H: The impact of the advanced lung cancer inflammation index on the outcomes of patients with metastatic colorectal cancer who receive chemotherapy. *Int J Clin Oncol* 28:400-408, 2023
159. Vassilakopoulou M, Chen HC, Wang X, Harada K, Iwatsuki M, Das P, Blum Murphy M, Matamoros A, Jr., Sagebiel T, Devine C, Thomas I, Sanders EM, Shanbhag N, Rogers JE, Lee JH, Weston B, Bhutani MS, Hofstetter W, Nguyen QN, Badgwell BD, Ajani JA: Localized gastroesophageal adenocarcinoma in the elderly: Is age a factor associated with suboptimal treatment? *Oncology* 101:153-158, 2023
160. Horinouchi T, Yoshida N, Toihata T, Harada K, Eto K, Ogawa K, Sawayama H, Iwatsuki M, Baba Y, Miyamoto Y, Baba H: Postoperative respiratory morbidity can adversely affect prognosis in thoracoscopic esophagectomy for esophageal cancer: a retrospective study. *Surg Endosc* 37:2104-2111, 2023
161. Kim HS, Kim W, Endo I, Jang JY, Kim H, Song KB, Hwang DW, Kang CM, Hwang HK, Park SJ, Han SS, Yoon YS, Do Yang J, Amano R, Yamazoe S, Yanagimoto H, Ajiki T, Ohtsuka M, Suzuki D, Lee DS, Kitahata Y, Amaya K, Sakata J, Seo HI, Yamauchi J, Yabushita Y, Tanaka T, Sakurai N, Hirashita T, Horiguchi A, Unno M, Do You D, Yamashita YI, Kobayashi S, Kyoden Y, Ide T, Nagano H, Nakamura M, Yamaue H, Yamamoto M, Park JS: Proposal of nomograms to predict clinical outcomes in patients with ampulla of Vater cancer based on the Korea-Japan collaborative study. *J Hepatobiliary Pancreat Sci* 30:360-373, 2023
162. Ioka T, Kanai M, Kobayashi S, Sakai D, Eguchi H, Baba H, Seo S, Taketomi A, Takayama T, Yamaue H, Takahashi M, Sho M, Kamei K, Fujimoto J, Toyoda M, Shimizu J, Goto T, Shindo Y, Yoshimura K, Hatano E, Nagano H, Kansai Hepatobiliary Oncology G: Randomized phase III study of gemcitabine, cisplatin plus S-1 versus gemcitabine, cisplatin for advanced biliary tract cancer (KHBO1401- MITSUBA). *J Hepatobiliary Pancreat Sci* 30:102-110, 2023
163. Kanaka S, Matsuda A, Yamada T, Miyamoto Y, Yokoyama Y, Matsumoto S, Sonoda H, Ohta R, Shinji S, Sekiguchi K, Baba H, Yoshida H: Segmental or right hemi-colectomy? The optimal surgical procedure for transverse colon cancer: a propensity score-matched, multicenter, retrospective study. *Int J Colorectal Dis* 38:58, 2023
164. Miyata T, Sugi K, Horino T, Ono A, Tagayasu Y, Nomoto D, Inoue M, Mizumoto T, Kubota T, Yanagida E, Murayama T, Miyanari N, Baba H: Conversion surgery after atezolizumab plus bevacizumab for primary and peritoneal metastasis after hepatocellular carcinoma rupture. *Anticancer Res* 43:943-947, 2023
165. Tubakihara H, Sawayama H, Komohara Y, Miyamoto Y, Ogawa K, Ohuchi M, Yoshida N, Baba H: A case of familial adenomatous polyposis with protein-losing enteropathy treated by laparoscopic total colorectal resection: A literature review. *Asian J Endosc Surg* 16:77-81, 2023
166. Stachler MD, Bao C, Tourdot RW, Brunette GJ, Stewart C, Sun L, Baba H, Watanabe M, Agoston A, Jajoo K, Davison JM, Nason K, Getz G, Wang KK, Imamura Y, Odze R, Bass AJ, Zhang C-Z: Origins of cancer genome complexity revealed by haplotype-resolved genomic analysis of evolution of Barrett's esophagus to esophageal adenocarcinoma. *bioRxiv* :2021.2003.2026.437288, 2023
167. Ichida A, Kokudo T, Shimada S, Hatano E, Kubo S, Kato Y, Ishikawa Y, Mori A, Baba H, Matsuyama Y, Endo I, Yamaue H, Yamamoto M, Kokudo N, Hasegawa K: Liver resection for hepatocellular carcinoma with tumor thrombus in the inferior vena cava or right atrium: A large-scale multicenter survey conducted in Japan. *Ann Surg*, 2023 Jan 2. doi: 10.1097/SLA.0000000000005789. Online ahead of print.

168. Saito Y, Fujiwara Y, Miyamoto Y, Ohnishi K, Nakashima Y, Tabata Y, Baba H, Komohara Y: CD169(+) sinus macrophages in regional lymph nodes do not predict mismatch-repair status of patients with colorectal cancer. *Cancer Med*, 2023 Feb 27. doi: 10.1002/cam4.5747. Online ahead of print.
169. Morito A, Harada K, Iwatsuki M, Maeda Y, Mitsuura C, Toihata T, Kosumi K, Eto K, Iwagami S, Baba Y, Miyamoto Y, Yoshida N, Baba H: Frailty assessed by the clinical frailty scale is associated with prognosis after esophagectomy. *Ann Surg Oncol*, 2023 Mar 7. doi: 10.1245/s10434-023-13313-w. Online ahead of print.
170. Maehara Y, Oki E, Ota M, Harimoto N, Ando K, Nakanishi R, Kawazoe T, Fujimoto Y, Nonaka K, Kitao H, Iimori M, Makino K, Takechi T, Sagara T, Miyadera K, Matsuoka K, Tsukihara H, Kataoka Y, Wakasa T, Ochiwa H, Kamahori Y, Tokunaga E, Saeki H, Yoshizumi T, Kakeji Y, Shirabe K, Baba H, Shimada M: Lineage of drug discovery research on fluorinated pyrimidines: chronicle of the achievements accomplished by Professor Setsuro Fujii. *Int J Clin Oncol*, 2023 Mar 24. doi: 10.1007/s10147-023-02326-w. Online ahead of print.
171. Tomita M, Okabe H, Masuda T, Ono A, Kuroda D, Kuroki H, Hirota M, Hibi T, Baba H, Sugita H: A case of accessory hepatic duct entering cystic duct successfully treated by laparoscopic cholecystectomy for cholecystolithiasis. *Asian J Endosc Surg*, 2023 Mar 21. doi: 10.1111/ases.13175. Online ahead of print.