receive secondary surgeries (29.6% vs. 22.6%, $p < 0.0001$) than patients who received bevacizumab.

Conclusions: In this nationwide cohort study, we demonstrated that among patients who received first-line chemotherapy doublets for inoperable KRAS wild-type mCRC, the combination with anti-EGFR mAb, compared with the combination with bevacizumab, led to significantly longer OS and TTF. This benefit mainly came from patients with left-sided primary tumors. In the multivariate analysis, anti-EGFR mAb treatment remained an independent predictor of longer OS and TTF for the left-sided primary tumors. To our knowledge, this is the largest (n = 6,482) cohort study focusing on this issue.

Legal entity responsible for the study: The authors.

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P-72 Real-world treatments and outcomes for biliary tract cancer patients using administrative databases in Ontario, Canada

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Background: There is a paucity of literature on treatment patterns and outcomes in biliary tract cancer (BTC) patients in Canada. The aim of this study was to better understand treatment patterns and survival outcomes of BTC patients in Ontario.

Methods: We conducted a retrospective population-level study in Ontario using ICES datasets on patients diagnosed with de novo or recurrent, advanced BTC (including: gallbladder cancer, intrahepatic and extrahepatic cholangiocarcinoma [IHC and EHC, respectively], Ampulla of Vater [AoV]) between January 1, 2010 and December 31, 2019. Follow-up data were available until December 31, 2020. Patients were categorized as de novo if they had stage IV disease at the time of first diagnosis, and as recurrent if they had a prior diagnosis of early stage (I-III) or unknown/missing (UNK/M) disease and received a BTC treatment (proxy for progression). Patients were excluded if they died before BTC diagnosis or had a prior cancer diagnosis. To determine the longitudinal trajectory of care for BTC patients, linkages were made between 8 national/provincial data sets.

Results: A total of 2,666 advanced BTC patients were identified, of which 471 (17.7%) were gallbladder, 785 (29.4%) were IHC, 864 (32.4%) were EHC, 304 (11.4%) were AoV and 242 (9.1%) had an unspecified BTC diagnosis. Out of 2,666, 828 (31.1%) were diagnosed with de novo and 1,838 (68.9%) were diagnosed with recurrent disease. The median age at diagnosis was 67 (interquartile range [IQR] 59-74) that significantly ($p<0.001$) varied between de novo and recurrent patients, and a majority (50.5%) of the patients were male. A total of 2,307 (86.5%) patients received first-line (1L) treatment. The most common 1L treatments were a platinum and gemcitabine combination — cisplatin and gemcitabine (gem/cis) (50.1%) and carboplatin and gemcitabine (gem/carbo) (4.9%), followed by gemcitabine monotherapy (gemmono) (17.5%), and capecitabine- or fluorouracil-based treatments (fluoropyrimidine [FP]) (16.5%). For AoV patients, the most common 1L treatment was gemmono (47.6%). Of those treated with 1L treatments, 38.7% received subsequent treatment(s). The most common treatment in second line (2L) was FP (32.1%). Among the 2,307 treated patients, 1,132 (49.1%) of patients received a stenting procedure. The mean (standard error [SE]) and median (IQR) overall survival (OS) for all advanced BTC patients from diagnosis was 28.8 months (0.83) and 13.1 months (5.7-32.0), respectively. Mean and median OS from diagnosis was longer for patients who received a 1L treatment (32.3 months [0.93] and 16.4 months [IQR 7.8-37.0], respectively) versus untreated patients (6.2 months [0.71] and 2.8 months [1.7-5.6], respectively). Mean and median OS from initiation of treatment was 16.7 months [0.71] and 9.2 months (IQR 4.0-18.9), respectively for non-AoV patients who received gem/cis.

Conclusions: This is the first comprehensive, Canadian-specific, real-world evidence study of advanced BTC patients. This study showed that 1L treatment options vary between AoV and non-AoV BTC patients, and patients who receive 1L treatment have greater survival than those who do not. The short OS in advanced BTC patients highlight the need for novel and more effective first-line therapies.

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P-73 Survival outcomes of surgical resection in perihilar cholangiocarcinoma in endemic area of O. Viverrini, Thailand

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Background: Perihilar cholangiocarcinoma is an intractable malignancy and still remain the most challenge for surgeon. This study aims to investigate survival outcomes and prognostic factors in perihilar cholangiocarcinoma patient receiving surgical treatment in single center in Thailand, endemic area of O. Viverrini.

Methods: From October 2013 to December 2018, 240 consecutive patients with perihilar cholangiocarcinoma underwent surgical exploration with or without adjuvant treatment at Sunpasitthiprasong hospital were retrospectively reviewed from medical recording system. The clinicopathological parameters and surgical outcomes were extracted. Patients were divided into two groups: unresectable and resectable group. The restricted mean survival time between two groups were analyzed. Factors associated with overall survival in resectable group were explored with multivariable Cox regression analysis.

Results: Of the 240 patients, 201 (83.75%) were received surgical resection. The survival outcomes of resectable group was better than unresectable group significantly. The restricted mean survival time difference were 0.5 (95%CI 0.22-0.82) months, 1.8 (95%CI 1.15-2.49) months, 4.7 (95%CI 3.58-5.87) months, and 9.1 (95%CI 7.40-10.78) months at four landmark time points of 3, 6, 12 and 24 months, respectively. The incidence of major complications and 90-day mortality in resectable group were 35.82% and 11.44%, respectively. Bismuth type IV, vascular resection, positive resection margin, lymph node metastasis, and distant metastasis were all predictive factors for long-term survival in univariable analysis. However, multivariable analysis revealed that Bismuth type IV (HR:4.43, 95%CI 1.853-10.599), positive resection margin (HR:4.24, 95%CI 1.741-10.342), and lymph node metastasis (HR:2.29, 95%CI 1.046-4.999) were all independent predictors of long-term survival. For pM0, R0 and pN0 patients, the median survival time was better than pM0, R1 or pN1/2 patients and pM0, R1 and pN1/2 patients (32.4, 10.4 and 4.9 months, respectively; $p < 0.001$).

Conclusions: Surgical resection increased survival in perihilar cholangiocarcinoma. Bismuth type IV, positive resection margin and lymph node metastasis were independent factors for long-term survival. Patients with R0 and pN0 had a good prognosis, but those with R1/2 and/or pN1/2 had a bad prognosis. As a result, aggressive resection are essential.

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P-74 SGNTUC-019: Phase 2 basket study of tucatinib and trastuzumab in previously treated solid tumors with HER2 alterations: Biliary tract cancer cohort (trial in progress)

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Background: Tucatinib (TUC), a highly selective HER2-directed tyrosine kinase inhibitor approved in multiple regions for HER2+ metastatic breast cancer, is being investigated as a novel therapy for patients with metastatic colorectal cancer, gastric cancer, and other GI tumors. In xenograft models of HER2+ and HER2-mutated tumors, dual targeting of HER2 with TUC + trastuzumab (Tras) showed superior activity to either agent alone. (Kulukian 2020) Interim results from the MOUNTAINEER study have shown promising activity for TUC + Tras in HER2+ colorectal cancer. In 23 response-evaluable patients, an objective response rate (ORR) of 52% was observed with a median progression-free survival (PFS) of 8.1 months. (Strickler 2019) The prognosis for patients with biliary tract cancers (BTCs) remains poor, and treatment options are limited. Given that approximately 12%-15% of BTC patients are HER2+, and 1%-8% have HER2 mutations, TUC + Tras warrants further evaluation in this patient population. The SGNTUC-019 basket study (NCT04579380) is evaluating TUC + Tras in patients with previously treated, locally advanced, unresectable or metastatic solid tumors, including BTC, that display HER2 overexpression/amplification or activating mutations. We describe the design of the BTC cohort.

Trial design: SGNTUC-019 is a multi-cohort, open-label, international phase 2 study. Patients must be $\geq$18 years old; have an ECOG PS of $\leq$1; have adequate hepatic, hematological, renal, and cardiac functions; and have no previous exposure to HER2-directed therapy. Exceptions for prior Tras treatment are allowed in patients with uterine serous carcinoma or HER2-mut gastroesophageal junction. Patients must have

progressed on or after ≥1 previous line of treatment in the locally-advanced unresectable or metastatic setting. The HER2+ BTC cohort will enroll 12 response-evaluable patients. If >2 responses are observed, the cohort will be expanded to 30 patients. HER2-mutated BTC patients may also be enrolled in a 30-patient cohort for HER2-mutated solid tumors. The primary objective is antitumor activity with confirmed ORR by investigator assessment as the endpoint. Secondary efficacy endpoints include disease control rate, duration of response, PFS, and OS. For eligibility, HER2 alterations can be demonstrated by 1. HER2 overexpression/amplification in tumor tissue by prior IHC/ISH or 2. by HER2 amplification/mutation in a prior or on-study NGS assay of ctDNA or prior tissue NGS assay. Patients will receive TUC 300 mg orally twice a day and Tras 8 mg/kg intravenously on Cycle 1 Day 1 then 6 mg/kg every 21 days from Cycle 2 Day 1. Disease assessments per RECIST 1.1 are every 6 weeks for the first 24 weeks, then every 12 weeks. Quality of life will be evaluated every 2 cycles using EQ-5D-5L. Sites are currently enrolling within Europe, US, and Asia-Pacific.

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P-75 Digestive tumours in the elderly during COVID pandemic

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Background: Digestive tumours in the elderly are among the most frequent tumours. The diagnostic and therapeutic management is identical to that of the young subject for people in good health. In order to best adapt the treatment, a geriatric evaluation is necessary especially during the SARS COV 2 pandemic period.

Methods: We conducted a retrospective descriptive study in the medical oncology department of the University Hospital of Tlemcen. Our objective is to determine the epidemiological and clinical characteristics of patients aged 70 years and over, treated for a digestive tumour, namely colorectal (CR) and non-colorectal (NCR), during the COVID pandemic, for the period from 2020 to 2021.

Results: Fifty patients were included (28 CR vs 22 NCR). The mean age was 76 years with a predominantly male sex ratio (20H/8F CR vs 14H/8F NCR). Nearly half of the cases (46%) were diagnosed at a metastatic stage (10 CR vs 13 NCR), 28% at a localised stage (10 CR vs 4 NCR) and 26% at a locally advanced stage (8 CR vs 5 NCR). The majority of patients had a preserved general condition WHO 0-I in 29 patients (18 RC vs 11 NCR) and a normal BMI (24 RC vs 17 NCR). Undernutrition with hypoalbuminemia was noted in 4 patients (2 CR vs 2 NCR). 30 patients had a low G8 score Regardless of stage, chemotherapy and/or targeted therapy was prescribed at standard doses in 17 patients (11 CR vs. 6 NCR) and reduced dose in 19 patients (8 CR vs. 11 NCR). No adjuvant therapy was offered due to the early stage in 4 patients. Supportive care was offered in 4 patients (1 CR vs 3 NCR). After progression, second-line treatment was offered in 5 patients (1 CR vs 4 NCR) at full dose (1 CR vs 2 NCR) and reduced dose (0 CR vs 2 NCR). Survival at 6 months is estimated at 16/50 (32%) (6/28 CR vs 10/22 NCR), at 12 months 10/50 (20%) (8/28 vs 2/22) and at 24 months for 1 CR patient (2%).

Conclusions: Digestive tumours in the elderly are frequent, nutritional management and geriatric assessment is necessary for better management.

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P-76 Phase II study of FOLFIRI plus ramucirumab with recurrent colorectal cancer refractory to adjuvant chemotherapy with oxaliplatin/fluoropyrimidine (RAINCLOUD)

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Background: The RAISE study demonstrated the superiority of FOLFIRI plus ramucirumab (Ram) to FOLFIRI in second-line metastatic colorectal cancer (CRC) patients progressed after oxaliplatin, fluoropyrimidine with bevacizumab. But no evidence of FOLFIRI plus Ram for patients who were pretreated oxaliplatin, fluoropyrimidine without an anti-angiogenesis antibody. Therefore, we prospectively investigated the efficacy and toxicity of FOLFIRI plus Ram after CRC patients refractory to adjuvant chemotherapy with oxaliplatin plus fluoropyrimidine.

Methods: RAINCLOUD study was a multicenter single-arm phase II trial. Key eligibility criteria were as follows: histologically or cytologically confirmed colorectal cancer, confirmed recurrent colorectal cancer, refractory to fluoropyrimidine, refractory or intolerant of oxaliplatin without pretreated anti-angiogenesis therapy, had measurable or non-measurable lesion, PS=0 or 1, had adequate coagulation function, 20 years or older. FOLFIRI plus Ram were administered as follows; each 2-week cycle, patients received either 8 mg/kg ramucirumab intravenous infusion, followed by the FOLFIRI regimen (150～180 mg/m^2 intravenous irinotecan concurrent with 200 mg/m^2 intravenous leucovorin followed by 400 mg/m^2 fluorouracil given as an intravenous bolus then 2400 mg/m^2 given as a continuous infusion over 48 h). Primary endpoint of this study was progression-free survival (PFS). Secondary endpoints were overall survival (OS), overall response rate (ORR), disease control rate (DCR) and safety. The number of patients was set at 48 based on the threshold and expected median PFS values were 3.9 months and 6.9 months, respectively, with a one-sided alpha error of 0.05 and power of 0.80. This study was conducted in MCSGO (Multicenter Clinical Study Group of Osaka, Colorectal Cancer Treatment Group).

Results: A total of 48 patients were enrolled from 15 sites between September 2017 and September 2020. Patient characteristics: Median age 63.5 years (25～77), male / female 25 / 23, ECOG PS0/1 44/4, sidedness right/left 10/38, and RAS WT/MT/UN 13/33/2. Median PFS was 6.2 months (90% CI: 5.6-8.6), so primary endpoint was met. PFS rates of 6M and 12M were 54.1% (95% CI: 41.4-70.8) and 23.8% (95% CI: 14.0-40.6), respectively. Median OS was 21.2months (95% CI: 17.4-NA). The ORR and DCR were 41.7 % and 81.3 %, respectively. The incidence of grade 3/4 adverse events over 5% were neutropenia (43.8 %), leucopenia (10.4 %), and hypertension (8.3 %). No unexpected adverse events and treatment related death were observed.

Conclusions: Our data suggested that FOLFIRI plus Ram was effective and tolerable for patients with recurrent colorectal cancer refractory to adjuvant chemotherapy with oxaliplatin plus fluoropyrimidine. The results of the pre-planned translational research will be available soon.

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