Real-world progression outcomes among patients (pts) with metastatic pancreatic ductal adenocarcinoma (mPDAC) treated with liposomal irinotecan-based regimens in the United States

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Background

- Pancreatic cancer is expected to be the third deadliest cancer in 2021 and account for more than 48,000 cancer-related deaths.[1]
- Liposomal irinotecan, an intravenous liposomal formulation that encapsulates the topoisomerase 1 inhibitor irinotecan in a lipid-bilayer vesicle, is the only US Food and Drug Administration and European Medicines Agency approved, in combination with fluorouracil and leucovorin, second-line/post-gemcitabine treatment in mPDAC that is National Comprehensive Cancer Network® (NCCN) Category 1. [2-3]
- The NAPOLI-1 study, a randomized phase 3 study in patients with mPDAC previously treated with gemcitabine-based therapy, demonstrated an improvement in progression-free survival (PFS) with liposomal irinotecan + 5-fluorouracil/ leucovorin (5-FU/LV) vs. 5-FU/LV, 3.1 months (95% CI: 2.7 – 4.2) vs 1.5 months (95% CI: 1.4 – 1.8), respectively.[4]
- Patients treated with liposomal irinotecan + 5-FU/LV in NAPOLI-1 had a median age of 63 years at treatment initiation, 97% had performance status (PS) equivalent to Eastern Cooperative Oncology Group (ECOG) PS 0-1, and 34% had at least 2 prior lines of therapy.[4]

Objective

To evaluate real-world progression outcomes among patients with mPDAC treated with liposomal irinotecan-based regimens.

Methods

Study Design and Data Source

A retrospective descriptive analysis was performed using the Flatiron Health® longitudinal database, a demographically and geographically diverse database derived from electronic health record (EHR) data which includes data from over 280 cancer clinics representing more than 2.4 million active US cancer patients.

Patient Selection

- This analysis evaluated adult patients diagnosed with mPDAC and treated with liposomal irinotecan between January 1, 2016 and October 31, 2020.
- Eligible patients were those who:
  - had a documented activity in the EHR within 90 days on or after their metastatic diagnosis date
  - were treated with a liposomal irinotecan-based regimen in the metastatic setting
  - were at least 18 years old at treatment initiation and had at least one recorded activity after the start of treatment
  - and if a death was recorded, it occurred after the start of treatment.

Measures and Statistical Analyses

- Baseline patient demographics and clinical characteristics and real-world progression-free survival (rwPFS) were assessed.
- Baseline characteristics included: age at treatment initiation, ECOG PS, stage at initial diagnosis, region, practice type, serum albumin, and the number of prior lines of therapy. Median rwPFS was determined via Kaplan-Meier analysis.
- rwPFS was defined as the time between the start of the index liposomal-irinotecan-based line of therapy and the first of the following:
  - Documented progression event that occurred >14 days after the start of the of line therapy.
  - Documented death that occurred at any point after the start of the line of therapy.
- Patients without a documented progression event were censored on the last day that a note from the clinic was documented.
- Patients whose last note occurred prior to the start of the index line of therapy were excluded from the rwPFS analysis.
- Statistical analyses were conducted using SAS software version 9.4 (SAS Institute Inc., Cary, NC, US).

Figure 1. Overall rwPFS among patients treated with liposomal irinotecan

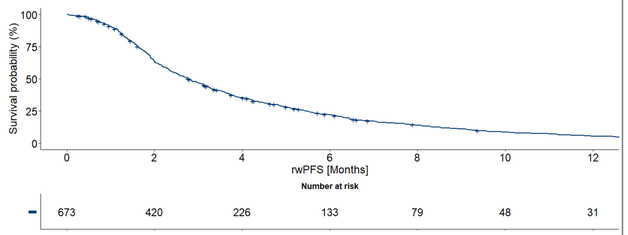
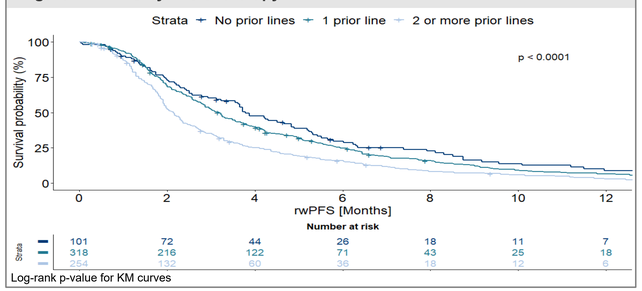


Figure 2. rwPFS by line of therapy



Log-rank p-value for KM curves

CONCLUSIONS

- In this real-world study of patients with mPDAC treated with a liposomal irinotecan-based regimen, median rwPFS was similar to the median PFS of the pivotal phase 3 trial despite the fact that patients in the real-world were older, had worse performance scores, and more prior lines of therapy than patients included in the clinical trial.
- Further studies are needed to characterize factors that influence PFS among patients treated with liposomal irinotecan.

Limitations

- Prior gemcitabine use could not be confirmed for all patients.
- Progression data are abstracted from medical charts and may not reflect progression assessed via Response Evaluation Criteria in Solid Tumors (RECIST) criteria.[5]
- Asymptomatic progression is likely not captured in these data
- Age was limited to 85 years and younger for de-identification. reasons therefore the true age of the older patients of the population and true average age of the overall population is unknown.

Results

Patient Characteristics

- 675 patients with mPDAC treated with liposomal irinotecan were included in the study.
- The median age at treatment initiation was 69 years (IQR: 62 – 75).
- 255 (37.8%) patients had two or more prior lines of therapy, 394 (58.4%) had an ECOG PS of 0-1, 115 (17.0%) had an ECOG score of 2+, and 166 (24.6%) had missing scores (Table 1).
- 368 (54.5%) patients were initially diagnosed with stage IV disease.

Real-world Progression-free Survival

- The overall median rwPFS (95% CI) for 673 patients was 2.8 months (2.5 – 3.1) (Figure 1) [2 patients were excluded due to lack of follow-up for the rwPFS analysis].
- As expected, rwPFS decreased in later lines of therapy (Figure 2)
- Median rwPFS among patients treated in 1L (n=101), 2L (n=318), and third line plus (3L+, n = 254) were 3.8 months (2.9–4.8), 3.2 months (2.8–3.5), and 2.1 months (1.9–2.3), respectively.

Table 1. Patient characteristics at the start of liposomal irinotecan treatment

Characteristics	Overall Cohort N = 675
Age at index, years, median (Q1-Q3)	69 (62 - 75)
Male, n (%)	349 (51.7%)
Stage IV at initial diagnosis, n (%)	368 (54.5%)
Year of treatment initiation, n (%)	
2016	117 (17.3%)
2017	123 (18.2%)
2018	181 (26.8%)
2019	163 (24.2%)
2020	91 (13.5%)
Geographic Region, n (%)	
Northeast	110 (16.3%)
Midwest	97 (14.4%)
South	296 (43.8%)
West	106 (15.7%)
Unknown	66 (9.8%)
ECOG PS, n(%)	
0	118 (17.5%)
1	276 (40.9%)
2+	115 (17.0%)
Missing	166 (24.6%)
Serum albumin, n (%)	
<40 g/L	493 (73.0%)
≥ 40g/L	122 (18.1%)
Unknown/Not Tested	60 (8.9%)
Previous Lines of therapy, n (%)	
0	101 (15.0%)
1	319 (47.3%)
2 or more	255 (37.8%)
Practice Type, n (%)	
Academic	57 (8.4%)
Community	618 (91.6%)

ECOG PS, Eastern Cooperative Oncology Group performance status

References

1. Siegel RL et al Cancer Statistics, 2021. CA Cancer J Clin. 2021;71(1):7-33
2. National Comprehensive Cancer Network. National Comprehensive Cancer Network (NCCN) pancreatic adenocarcinoma (v1.2020) 2020. Available from: https://www.nccn.org/professionals/physician_gls/pdf/pancreatic.pdf.
3. Onivyde US PI https://www.ipsen.com/websites/Ipsen_Online/wp-content/uploads/sites/9/2019/01/21083350/ONIVYDE_USPI.pdf (September 2019).
4. Wang-Gillam A et al J Clin Oncol. 2018;36(4 Suppl):388.
5. Eisenhauer EA et al. European Journal of Cancer. 2009;45(2):228-247

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