Adding ramucirumab to second-line irinotecan, 5-fluorouracil and folinic acid (FOLFIRI) treatment for metastatic colorectal carcinoma (mCRC): resource utilization data from RAISE, a global, randomized, double-blind, multicenter phase 3 study

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Introduction: Ramucirumab is a human IgG-1 monoclonal antibody that targets the extracellular domain of vascular epidermal growth factor (VEGF) receptor 2. In the RAISE study, addition of ramucirumab to standard second-line FOLFIRI treatment significantly improved overall and progression-free survival of mCRC patients with disease progression (PD) during or after first-line therapy with bevacizumab, oxaliplatin, and a fluoropyrimidine (Tabernero et al., Lancet Oncol 2015;16:499–508).

Here, we report secondary resource utilization data.

Methods: Eligible patients with mCRC were randomized 1:1 to receive 8 mg/kg ramucirumab plus FOLFIRI or placebo plus FOLFIRI every 2 weeks until PD, unacceptable toxicity, or death. Adverse events (AEs) and resource utilization data were collected at each cycle until 30 days after treatment discontinuation. These data were evaluated for all patients who received at least one dose of study treatment. Exploratory p-values were calculated using Fisher’s exact test for categorical variables and Wilcoxon rank sum tests for continuous variables.

Results: Of 1072 patients randomized, 1057 were eligible for safety and resource utilization analyses (ramucirumab 529, placebo 528). Most of the common (≥5% of patients) ≥Grade 3 AEs occurred at higher frequencies with ramucirumab than with placebo: neutropenia (38.4% vs. 23.3% [≥Grade 3 febrile neutropenia similar at 3.4% vs. 2.5%]), hypertension (10.8% vs. 2.8%), diarrhea (10.8% vs. 9.7%), and fatigue (11.5% vs. 7.8%). Overall, 20% of patients in the ramucirumab arm required ≥1 hospitalization due to study-drug related AEs (placebo 14%; Table); the mean number of hospitalization days for these patients was similar in both arms. Diarrhea, febrile neutropenia, and vomiting were the most common study drug-related AEs leading to a hospitalization in both treatment arms. The proportion of patients requiring transfusions was also similar. More patients in the ramucirumab arm required antibiotics and colony-stimulating factors, but there were few needs for other additional concomitant medications when compared with the placebo arm (Table).

Conclusion: The addition of ramucirumab to FOLFIRI second-line treatment for mCRC, although associated with increased rates of ≥Grade 3 AEs such as neutropenia or hypertension, was associated with few additional medical resource requirements.

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<td>Mean (SD)</td>
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<td>% duration of hospitalization relative to time on therapy</td>
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