Meta-analysis of biweekly irinotecan plus cisplatin versus irinotecan alone as second-line treatment for advanced gastric cancer


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**Background:** Biweekly CPT-11 plus CDDP (BIRIP) and CPT-11 alone are both expectable options for treating advanced gastric cancer (AGC) in second-line setting. Recently, two randomized phase III trials (TCOG GI-0801 and ECRIN TRICS) employing the same regimens have been reported. Both trials did not demonstrate the survival benefit of BIRIP due to underpowered. Therefore, we conducted a meta-analysis to compare the efficacy and safety of these two regimens in patients who have been enrolled in these two randomized trials.

**Methods:** Individual patient-level data from these two trials were collected for this study. In these two trials, patients with metastatic or recurrent gastric cancer refractory to S-1-based chemotherapy were randomly allocated to BIRIP (CPT-11, 60 mg/m²; CDDP, 30 mg/m², q2w) or CPT-11 (150 mg/m², q2w). Overall survivals (OS) and progression-free survival (PFS) were described using Kaplan-Meier methods. Tumor responses were evaluated using RECIST ver. 1.0. Adverse events were evaluated using CTCAE ver. 3.0.

**Results:** Cumulative data from eligible 290 patients from these two trials were evaluated. OS were 12.3 (95% confidence interval [CI]: 10.5–14.1) in BIRIP group and 11.3 (95% CI: 10.0–13.2) months in CPT-11 group (hazard ratio 0.87; 95% CI: 0.68–1.12, P = 0.272). PFS was significantly longer in BIRIP group (4.3months [95% CI: 3.5–5.1]) than in CPT-11 group (3.3months [2.9–4.1]; HR 0.77; 95% CI: 0.61–0.98, P = 0.035). The response rate was 20.5% (95% CI: 13.3–27.7) in BIRIP group and 16.0% (95% CI: 9.6–22.4) in CPT-11 group (P = 0.361). The disease control rate was significantly better in BIRIP group (72.1% [95% CI: 64.2–80.1]) than in CPT-11 group (59.2% [95% CI: 50.6–67.8]) (P = 0.032). The incidences of grade 3 or worse adverse events did not differ between the two groups, for example neutropenia (35.9% vs. 32.4%) and elevation of serum creatinine (0.7% vs. 0.7%). The incidences of anemia (16.6% vs. 10.3%) was higher for BIRIP than for CPT-11. But diarrhea (1.4% versus 4.1%) was more common in CPT-11 group.

**Conclusions:** BIRIP significantly prolonged PFS as compared with CPT-11 alone and was tolerated as second-line treatment for AGC, but did not demonstrate the survival benefit.

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