A META-ANALYSIS ON THE EFFICACY OF SECOND LINE (2L) TREATMENT OPTIONS FOR ADVANCED GASTRIC CANCER (AGC)

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Aim: Different regimens of systemic chemotherapy (CT) and targeted therapy (TT) have proven to be effective in 2L AGC. No randomized clinical trials (RCTs) have directly compared these treatments and the relative efficacy among them remains unclear. We aimed to perform a systematic review and meta-analysis of the treatment options in this setting to synthesize the available data and help decision-making.

Methods: A systematic search was performed through MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials and ASCO meeting abstracts up to Jan 2014 to identify RCTs for 2L AGC comparing: 1) any CT regimen vs. best supportive care (BSC), 2) TT vs. BSC, 3) Taxanes (T) vs. Irinotecan (I) or 4) TT vs. CT. Studies were reviewed by two authors and discrepancies were resolved by consensus or by a third author. Data including progression-free survival (PFS) and overall survival (OS) were extracted. The primary outcome was OS. A meta-analysis (MA) with random effects comparing the different regimens with direct and indirect comparisons was conducted.

Results: Six RCTs with 1134 patients were selected, 3 evaluated CT vs. BSC, 2 TT vs. BSC and one T vs. I. A significant reduction in the risk of death (HR 0.77, 95% CI 0.69-0.87, p < 0.0001) was found when direct meta-analysis (5 RCTs) comparing any treatment (CT or TT) vs. BSC was performed. Direct MA (3 RCTs) of CT vs. BSC showed that OS HR=0.70, (95% CI 0.58-0.84) favoring CT. A significant reduction in the risk of death was also found when a direct MA (2 RCTs) of TT vs. BSC was conducted (HR 0.85, 95% CI 0.73-0.99) favoring TT. No significant heterogeneity was found among RCTs. Indirect comparison of CT vs. TT found no significant differences in OS among treatments (HR 0.82, 95%CI 0.62-1.05).

Conclusions: The results of direct and indirect MA suggested that both CT and TT improved OS in 2L treatment for AGC and they seemed to be equally effective in this setting.

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