

A Bayesian network meta-analysis for the second-line treatment of metastatic renal cell carcinoma

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Background/Aims: Renal cell carcinoma is the most common type of adult kidney cancer, making up about 85% of kidney cancer. Chemotherapy agents for metastatic renal cell carcinoma (mRCC) have evolved rapidly over the last ten years as molecular pathways of the RCC have been elucidated. The goal of this study was to compare the efficacy and toxicity of chemotherapeutic agents as second-line treatment for mRCC through a network meta-analysis (NMA) of randomized controlled trials. We conducted systematic review and NMA which has emerged as a useful analytical tool allowing comparison of multiple treatments based on direct and indirect evidence. **Methods:** We conducted a systematic search of the literature up to June 2018. Randomized controlled trials with chemotherapy in mRCC as the second line were searched in MEDLINE, EMBASE, and the Cochrane Central Register of Controlled Trials. We also searched the meeting abstracts from the American Society of Clinical Oncology, European Society for Medical Oncology. Two reviewers independently extracted data and assessed the risk of bias in the trials. We also analyzed the safety including hypertension, one of the most common side effects of the targeted treatment for mRCC. **Results:** Our literature search identified 309 references. After a full-text and abstract review, we considered 67 relevant clinical trials for potential inclusion into the NMA. Among the trials fitting the criteria for our NMA, total 8 RCTs were identified. For PFS, this comprised of 8 trials comparing ten different treatments (Fig 1). Based on the analysis of

Figure 1A. Rank probabilities table for efficacy SUCRA, there was a 96% probability that lenvatinib and everolimus combination treatment had the greatest PFS (Fig.2A) and a 91% probability that lenvatinib alone had the most significant side effect of hypertension (Fig.2B). **Conclusions:** To the best of our knowledge, this study is the first study to compare the effect and significant side effect together of the all second-line regimens for the treatment of mRCC. The results suggest that the lenvatinib plus everolimus combination is the most effective therapy. However, given the considerable side effects such as hypertension, caution should be taken in the selection of agents.

Figure 1 Network diagram and Forest plot for efficacy with placebo as the comparator

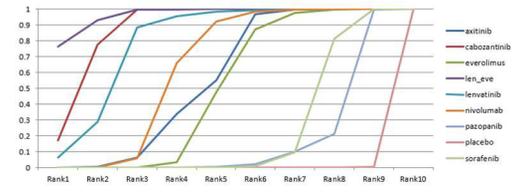
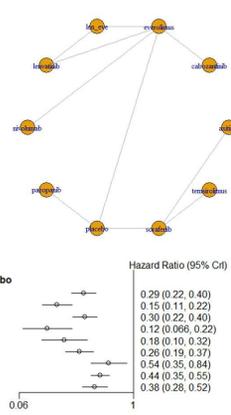
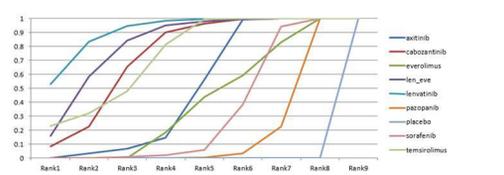


Figure 1B. Rank probabilities table for hypertension



Prognostic value of platelet-lymphocyte ratio in patients with soft-tissue sarcoma

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Background/Aims: Systemic inflammation has been implicated in cancer development and progression. And inflammatory markers have been identified as prognostic indicators in various malignancies. In the present study, we investigated the prognostic relevance of initial and postoperative platelet/lymphocyte (PLR) on disease-free survival (DFS) and overall survival (OS) in patients with soft-tissue sarcoma (STS). **Methods:** We include 89 STS patients who underwent extensive and radical resection at the Kyungpook National University Chilgok Hospital (Daegu, Korea), between 2004 and 2018. Kaplan-Meier curves and multivariate Cox proportional models were calculated for DFS and OS. **Results:** The median age of the patients was 55 years (range 27-86) and the ratio of males to females was approximately 7:6. Histologic subtype of STS was as follows: liposarcoma (n=26, 29.2%), leiomyosarcoma (n=15, 16.9%), spindle cell sarcoma (n=6, 6.7%), synovial sarcoma (n=6, 6.7%), rhabdomyosarcoma (n=4, 4.5%), DFSP (n=2, 2.3%). In univariate analysis, elevated initial PLR ratio was significantly associated with decreased DFS (HR: 2.19; 95% CI: 1.19-4.09, p=0.013) and OS (HR: 5.07; 95% CI: 1.73-14.87, p=0.003). The patients with high PLR (PLR >231) had a median DFS of 18 months, whereas those with low PLR (PLR ≤231) had a median DFS of 35 months. Median OS was 70 and 104 months for high PLR and low PLR groups, respectively. Furthermore, postoperative high PLR ratio was also significantly associated with decreased DFS (HR: 3.80; 95% CI: 1.67-8.64, p=0.001) and OS (HR: 5.70; 95% CI: 1.09-17.57, p=0.038). **Conclusions:** The present results suggest that preoperative and postoperative PLR ratio can be used as a cost-effective prognostic marker for the oncologic outcomes in the STS patients who underwent surgery.

Fig 1 Kaplan-Meier recurrence-free survival curves according to NLR and PLR

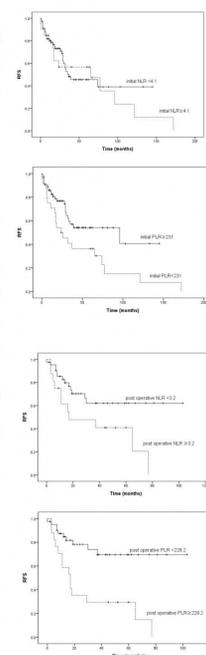


Fig 2 Kaplan-Meier overall survival curves according to NLR and PLR

