BACKGROUND

- Advanced renal cell carcinoma (RCC) presents multiple therapeutic alternatives.
- Recently, tivozanib has been authorized in this indication.

PURPOSE

- To perform a network meta-analysis (NMA) to provide a comprehensive treatment comparison of efficacy of first-line antiangiogenic treatment in RCC.

MATERIAL AND METHODS

1. Review in Pubmed and EMA
   - Inclusion criteria
   - Exclusion criteria

2. Subgroups of pre-treated and treatment-naive patients were assessed
   - NMA combined direct and indirect evidence to calculate pooled hazard ratios (HR) by bayesian methods.
   - Fixed and random effects.
   - Models compared using deviance information criteria (DIC) statistic.
   - Consistency of NMA by node-splitting models: agreement of direct and indirect estimations.

RESULTS

- Subgroups: 3 CT included pre-treated and treatment-naive patients.
  - No statistical interaction
  - Global results used
- Inclusion criteria: 0-1 (ECOG) in all CT. Sorafenib studies: patients with life expectancy ≥3 months
- DIC: favourable for fixed-effects model
- Consistency of NMA: no statistical differences between direct and indirect evidence.

<table>
<thead>
<tr>
<th>Compared with SUNITINIB</th>
<th>Hazard Ratio (95% Crl)</th>
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<tbody>
<tr>
<td>BEVA_INF</td>
<td>0.89 (0.70, 1.1)</td>
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<tr>
<td>INF</td>
<td>0.56 (0.47, 0.66)</td>
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<tr>
<td>PAZOPANIB</td>
<td>0.93 (0.80, 1.1)</td>
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<tr>
<td>PLACEBO</td>
<td>0.39 (0.30, 0.51)</td>
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<tr>
<td>SORAFENIB</td>
<td>0.74 (0.56, 0.97)</td>
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<tr>
<td>TIVOZANIB</td>
<td>0.92 (0.65, 1.3)</td>
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Tivozanib and sunitinib showed benefit over sorafenib.
Statistically significant benefit was found between all drugs over interferon and placebo.

CONCLUSION

1. The NMA provided a review of the relative efficacy of current antiangiogenic alternatives for RCC in terms of PFS.
2. Bevacizumab plus interferon, pazopanib, sunitinib and tivozanib showed no differences. Sorafenib was inferior to sunitinib and tivozanib.