

# A META ANALYSIS OF CYTOREDUCTIVE NEPHRECTOMY IN RENAL CELL CARCINOMA.



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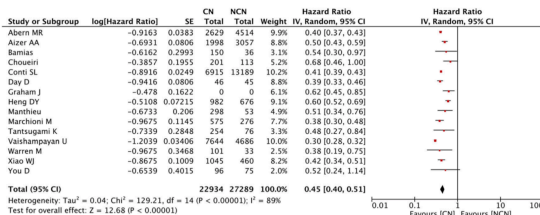
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**Aim** Our aim was to evaluate if performing cytoreductive nephrectomy versus no performing cytoreductive nephrectomy leads to survival benefit in patients with metastatic renal cell carcinoma and in specific subgroups of patients including patients with brain metastases, poor performance status, poor prognosis according to IMDC or MSKCC criteria, clear cell and non-clear cell histologies.

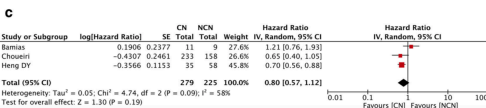
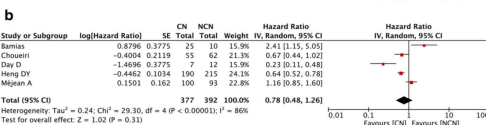
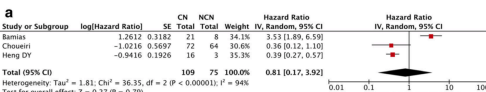
**Patients and Methods** In our search we identified 16 studies able to provide complete data for the comparison between cytoreductive nephrectomy + systemic treatment vs systemic treatment alone while 9 studies were selected for subgroup analysis. PRISMA guidelines have been adopted to carry out this meta-analysis.

**Results:** In the overall population, cytoreductive nephrectomy resulted in an OS benefit with a pooled HR of 0.48 (95% CI of 0.42– 0.56) with a significant level of heterogeneity with an I2 value of 92%.

Cytoreductive nephrectomy failed to show a significant survival improvement, with a pooled HR of 0.81 (95%CI, 0.17–3.92), 0.78 (95% CI, 0.48–1.26) and 0.80 (95%CI 0.57–1.12) in patients with brain metastases, poor risk category, and worst performance status, respectively. Cytoreductive nephrectomy resulted in a significant survival improvement in all categories, with a pooled HR of 0.48(95%CI, 0.38–0.61), 0.47(95%CI 0.41–0.54), and 0.51 (0.40–0.64) in patients with clear cell RCC, non-clear cell RCC, and papillary RCC, respectively. Heterogeneity was significantly high in the clear cell RCC analysis (I2 = 92%), while moderate levels were observed in non-clear cell RCC (I2 = 57%) and papillary RCC (I2 = 54%).



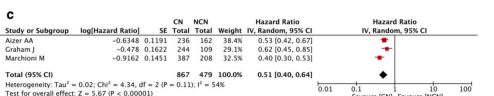
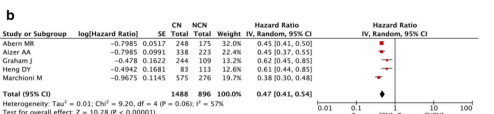
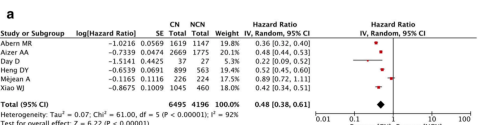
Cytoreductive Nephrectomy vs No Cytoreductive Nephrectomy in patients with brain metastases, poor prognosis and poor performance status.



We failed to show a survival benefit for patients with brain metastases, a poor risk score according to MSKCC/IMDC, and poor performance status who underwent to CN. Furthermore, we highlighted a high heterogeneity value for these subgroup analyses. A significant survival improvement in both clear cell RCC, non-clear cell RCC and papillary RCC, has been observed with a moderate level of heterogeneity in both non-clear cell RCC and papillary RCC analyses. In conclusion our study support further investigation of palliative nephrectomy in patients with non clear cell RCC and raise the importance of a better selection of patients which are more likely to benefit from this approach.

**Discussion and Conclusion:** Overall, our analyses are burdened by a high level of heterogeneity, which reflects the different types of studies included as well as the different temporality and data included. The main weakness of our analysis is the inclusion of retrospective studies due to the scarcity of prospective trials. However, a random effects model was adopted for analysis to account for this. Low risk of bias according to NOS (New Ottawa Scale) was calculated in 7 of 15 trials, while the others (7/15) presented a moderate risk (forone trial, determination of risk of bias was not performed due to the absence of information about the follow-up period). Considering these limitations, in our analysis, CN resulted in a significant survival benefit.

Cytoreductive Nephrectomy vs No Cytoreductive Nephrectomy in patients with ccRCC, nccRCC, and papillary RCC



## References:

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- [3] Heng DY, et al. Eur Urol. 2014;66(4):704–10.