Efficacy data were computed from all randomized trials (RT) that guided on-label uses of bevacizumab (K-Ras mutated), panitumumab and cetuximab. Non-significant differences were in favor of AT -2.21% (95% CI: -5.35 to 0.93); p=0.175. Clinical improvement was more pronounced in patients with K-Ras wild-type tumors. Patients with metastatic RCC (mRCC) who were treated with or without mTOR inhibitors as first-line therapy had similar overall survival (OS), progression-free survival (PFS), and objective response rate (ORR). However, patients with mRCC who received mTOR inhibitors had a lower risk of death (HR: 0.44; 95% CI: 0.28 to 0.70) and a longer median OS (10.1 months vs. 5.4 months) compared to those who did not receive mTOR inhibitors. These results suggest that mTOR inhibitors may improve clinical outcomes in patients with mRCC.

CONCLUSIONS: The current study provides evidence for the efficacy and safety of mTOR inhibitors in the treatment of mRCC. The results support the use of mTOR inhibitors as an effective treatment option for patients with mRCC, particularly in those with K-Ras wild-type tumors. Further research is needed to confirm these findings and to explore the role of mTOR inhibitors in other subtypes of mRCC.