Real word data on first-line metastatic renal cell carcinoma (mRCC) treatment choices in a tertiary centre in the UK

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Background & Aim

The approach to managing metastatic renal cell carcinoma (mRCC) has evolved over recent years. However, the choice regarding first-line treatment remains at the discretion of clinicians. Options such as doublet immunotherapy(IO/IO), immunotherapy/tyrosine kinase inhibitor(IO/TKI) combinations and single-agent tyrosine kinase inhibitors (TKIs). Despite the availability of treatments, the 5-year survival rate for those diagnosed with metastatic stage renal cell carcinoma is poor . Here, we present the real world data of first-line therapy choices at a tertiary center in the UK.

Methods

A retrospective data analysis was conducted to evaluate treatment choice and clinical outcomes in metastatic renal cell carcinoma (mRCC) in University Hospitals of Leicester NHS trust . Data were retrieved from electronic medical records, which included patients who initiated first-line treatment from 2019 to February 2024. An excel sheet was used to collect data retrospectively including age, gender, prior nephrectomy, tumor histology, and IMDC score, lines of treatment (Table 1) .We also included patients who has treatment as part of clinical trials.

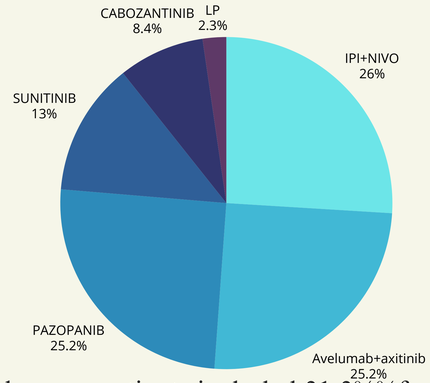
The primary endpoint assessed was overall survival and progression free survival with patients who continued on their respective treatment line censored. SPSS version 29 was used to perform analysis of dataset.

Results

Table 1

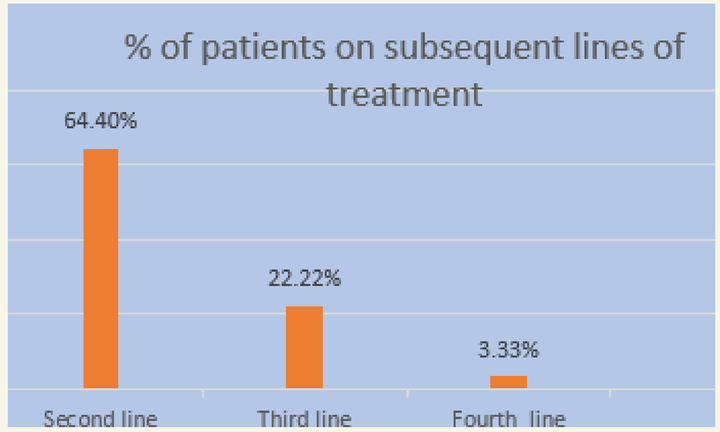
Gender no (%)	
Male	92 (70.2%)
Female	39 (29.8%)
Nephrectomy no- (%)	
Yes	71(54.2%)
NO	60 (45.8%)
Histology - no (%)	
Clear cell type	118 (90.1)
Papillary	7 (5.3%)
Chromophobe	1 (0.8%)
Other(No histology/unclassified)	5 (3.8%)

Fig 1 First line treatment choices



- IMDC subgroup patients included 31.3%%favourable, 46.6% intermediate, 22.1% poor risk
- Most common regimen was Ipilimumab+Nivolumab (IN) 26%, followed by Avelumab+axitinib (AA) and Pazopanib (P) 25.2% each. Other regimens were Sunitinib (S) 13%, Cabozantinib (C) 8.4% & Lenvatinib+Pembrolizumab (LP) 2.3%. (Fig 1)
- I+N was the most common choice in intermediate- poor-risk group and AA in favourable risk.
- Patients who recieved single agent pazopanib had 70% in intermediate-poor risk IMDC groups
- The **mPFS** for IN (7.7 months), LP (17 months), AA (10.2 months), S (24.7 months), P (18.2 months) and C (8.4 months); **p=0.093.**

Figure 2



- Poor risk IMDC had the worst mOS (13.7 months), while there was not much difference between favourable (35 months) and intermediate risk (37.8 months); **p=0.001.**
- Of the 90 patients who progressed after first line, only 64.4% (n=58) received second line treatment , 22.2% had third line and 3.3% fourth line (Figure 2)
- Reasons for SACT discontinuation included clinical decline (22%), toxicities (10%) and death (3.3%)
- 32.7% received 2nd line Nivolumab after TKI progression.
- Most patients (67.2%) received TKI in the second line after IO or TKI progression. Lenvatinib+everolimus used in 25.8% ,Pazopanib 8%, Axitinib 10.3% ,Cabozantinib 10.3% and Sunitinib 12% in second line setting)

Conclusion

- TKIs demonstrated highest PFS and OS in our population signifying that this remains a valid option for patients in the first line setting. The common first line choices were ipilimumab+nivolumab,avelumab+axitinib and pazopanib.
- Only **64.4% received second-line therapy** and these findings are similar to recently published UK multicentric review on SACT. This highlights the importance of using the most effective treatments earlier due to higher drop off rates
- Significance OS differences were seen amongst IMDC risk groups.