

Ligia Yoshida^a, Peter Serafini^a, Renato Picoli^b, Nayara Castelano^b, Fernando Senra^c

^aIpsen, Sao Paulo, Brazil; ^b Cerner Enviza, Sao Paulo, Brazil; ^cUnimed Araraquara, Araraquara, Brazil.

Background

- Renal cell carcinoma accounts around 90% of cancers in the kidney^{1,2}
- Approximately 30% of the patients with kidney cancer are diagnosed with metastatic disease³
- In Brazil, 11,971 new cases and 4,753 deaths were estimated in 2020⁴

Objective

To assess the cost-utility of cabozantinib + nivolumab (CaboNivo) compared to sunitinib, pazopanib, and ipilimumab + nivolumab (IpiNivo) for patients with advanced renal cell carcinoma (RCC) in first line setting.

Methods

- A partitioned survival model was developed with three health states: progression – free, progressed and death
- Clinical data were obtained from the CheckMate 9ER study (CaboNivo vs sunitinib; cut-off Sept 2020) and we developed a network meta-analysis for CaboNivo versus pazopanib and IpiNivo
- The costs considered were acquisition of drugs, monitoring of the disease and adverse events grade ≥3 from the Private Healthcare Perspective in Brazil
- Costs and benefits were discounted at rate of 5%⁵
- Probabilistic sensitivity analysis varied the parameters: utilities (gamma distribution), discount (beta) and costs (gamma)

Results

- The costs in the progression-free state with CaboNivo, IpiNivo, sunitinib and pazopanib were1.73 million, 1.22 million, 199,278 and 145,701 respectively
- In the progressed disease, costs were 965,846,1.53 million, 2.05 million and 1.99 million, respectively
- The total QALY gained with CaboNivo was 4.43,3.20 with sunitinib, 3.04 with pazopanib. In the intermediate/high risk population the total QALY with CaboNivo was 4.87 and 4.61 with IpiNivo
- The ICER of CaboNivo vs sunitinib and pazopanib was BRL 365,591/QALY, BRL 402,944/QALY and vs IpiNivo was BRL 347,698 QALY (intermediate/high risk population, due to IpiNivo label indication in Brazil) (Table 1)
- In the probabilistic sensitivity analysis, CaboNivo showed higher clinical benefit and lower cost in 28% of iterations vs IpiNivo (Figure 1)

Abbreviations

BRL: Brazilian currency; CaboNivo: cabozantinib + nivolumab; ICER: Incremental cost-effectiveness ratio; IpiNivo: ipilimumab + nivolumab; RCC: Renal Cell Carcinoma; QALY: quality-adjusted life year

References

[1] Hsieh et al. Renal cell carcinoma. Nat Rev Dis Primers. 2017;3:17009. Published 2017 Mar 9. doi:10.1038/nrdp.2017.9 [2] Leite et al. Influence of treatment access on survival of metastatic renal cell carcinoma in Brazilian cancer center. Int Braz J Urol. 2021; 47: 566-73 [3] National Cancer Institute. SEER 2022. Available at: <https://seer.cancer.gov/statfacts/html/kidrp.html> Accessed on Oct 2022. [4] GLOBOCAN. Cancer Today. Available at: <https://gco.iarc.fr/> Accessed on Oct 2022 [5] Ministry of Health. Health Economic Evaluation Guideline. 2ª ed. Brasília 2014 .

Author Contributions Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: LY, PS, RP, NC, FS; Drafting of the publication, or revising it critically for important intellectual content: LY, PS, RP, NC, FS; Final approval of the publication: LY, PS, RP, NC, FS

Disclosures: LY and PS are Employees of Ipsen; RP and NC are employees of Cerner Enviza, working as consultant for several pharmaceutical companies. FS: None declared.

CONCLUSIONS

CaboNivo was associated with higher clinical benefit and cost vs pazopanib and sunitinib. In the comparison vs IpiNivo, CaboNivo showed higher clinical benefit and in 28% of simulations presented lower cost vs IpiNivo. The model was most sensitive to changes in relative dose intensity, discount rate, acquisition drug costs.

Table 1. Cost – Utility Analysis Results of CaboNivo vs comparators from the Private Health System Perspective in Brazil.

Parameter	CaboNivo	Sunitinib	Pazopanib	CaboNivo	IpiNivo
Population	Intention-to-treat (ITT)			Intermediate/high risk	
Progression-free cost (BRL)	1,728,831	199,278	145,701	1,728,549	1,216,261
Progressed cost (BRL)	965,677	2,045,589	1,988,120	1.109.799	1,531,940
Total cost (BRL)	2,694,677	2,244,868	2,133,821	2,838,339	2,748,202
Life-years	6.31	4.72	4.49	6.96	6.72
QALYs	4.43	3.20	3.04	4.87	4.61
Incremental Cost (BRL)*	-	449,809	550,856	-	90,146
Incremental QALY*	-	1.23	1.39	-	0.26
ICER (cost per QALY)*	-	365,591	402,944	-	347,698

*All incremental cost are for CaboNivo versus comparator

Figure 1. Probabilistic sensitivity analysis results: cost – effectiveness plane (a) CaboNivo vs sunitinib; (b) CaboNivo vs pazopanib; (c) CaboNivo vs IpiNivo

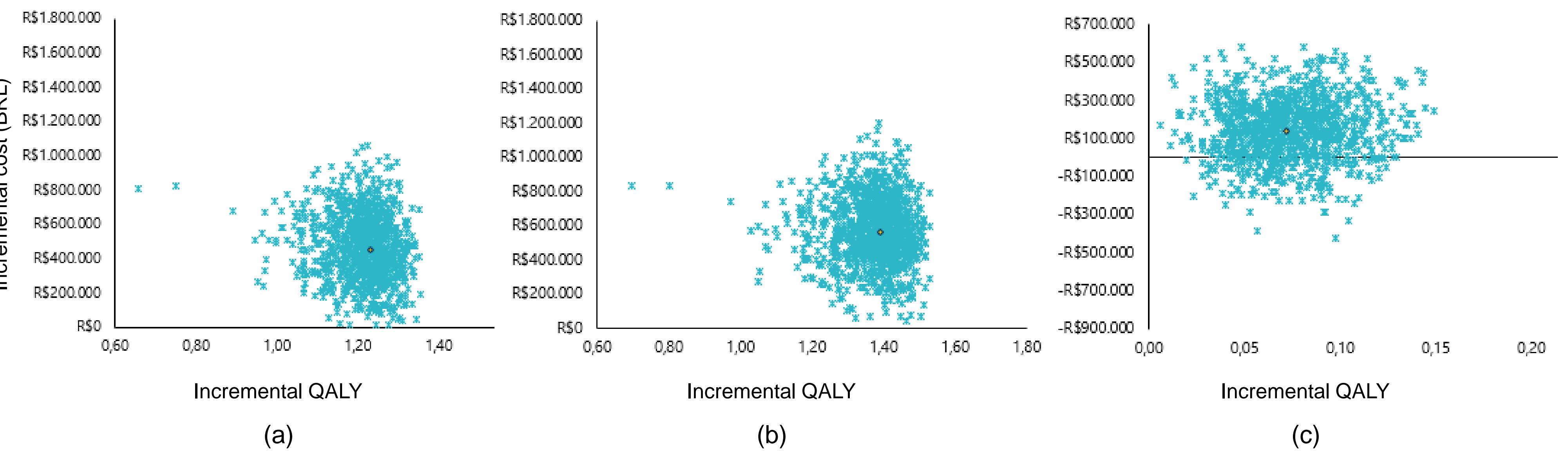
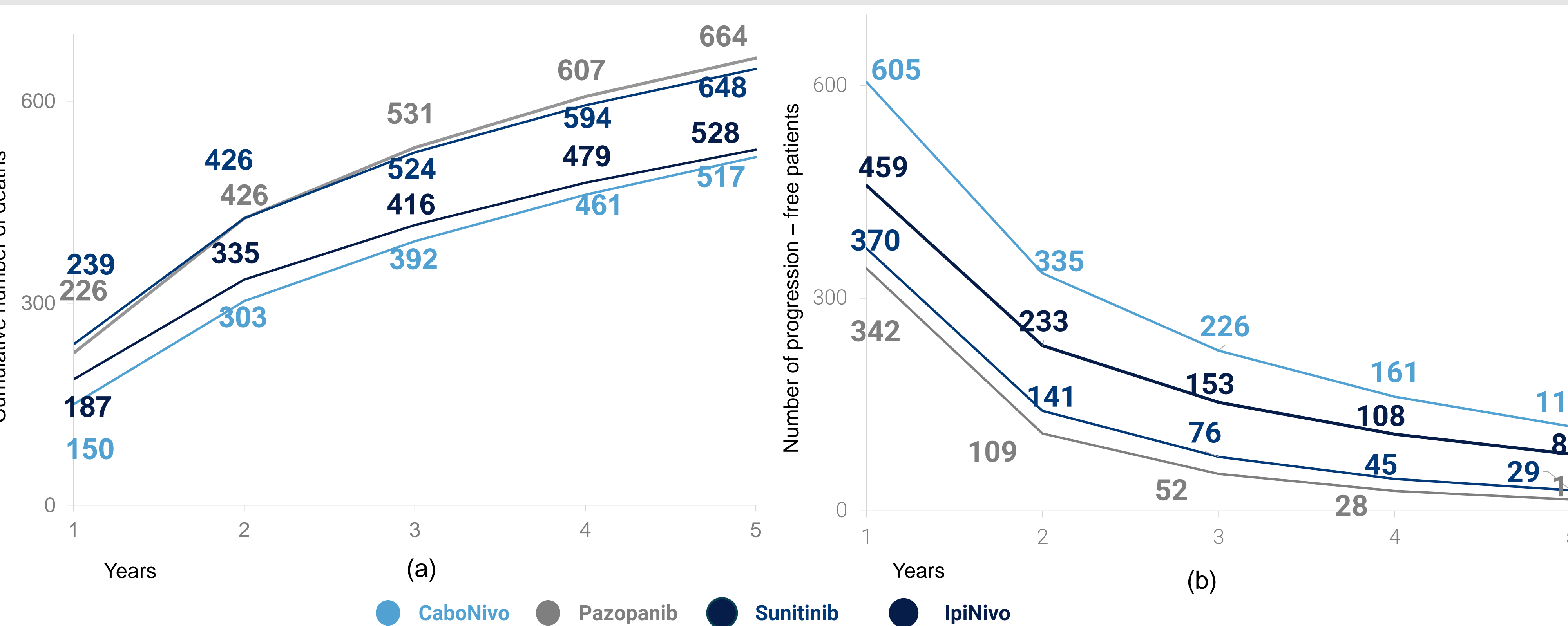


Figure 2. 1,000-patient cohort example using the partitioned survival model (a) number of deaths per treatment over the years (b) number of progression – free patients over the years



For further information, please send your question(s) to ligia.yoshida@ipsen.com

Copies of this eposter are for personal use only and may not be reproduced without written permission from the authors.