

Cost-Effectiveness Analysis of Isavuconazole Versus Voriconazole for the Treatment of Invasive Aspergillosis in Morocco

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Introduction

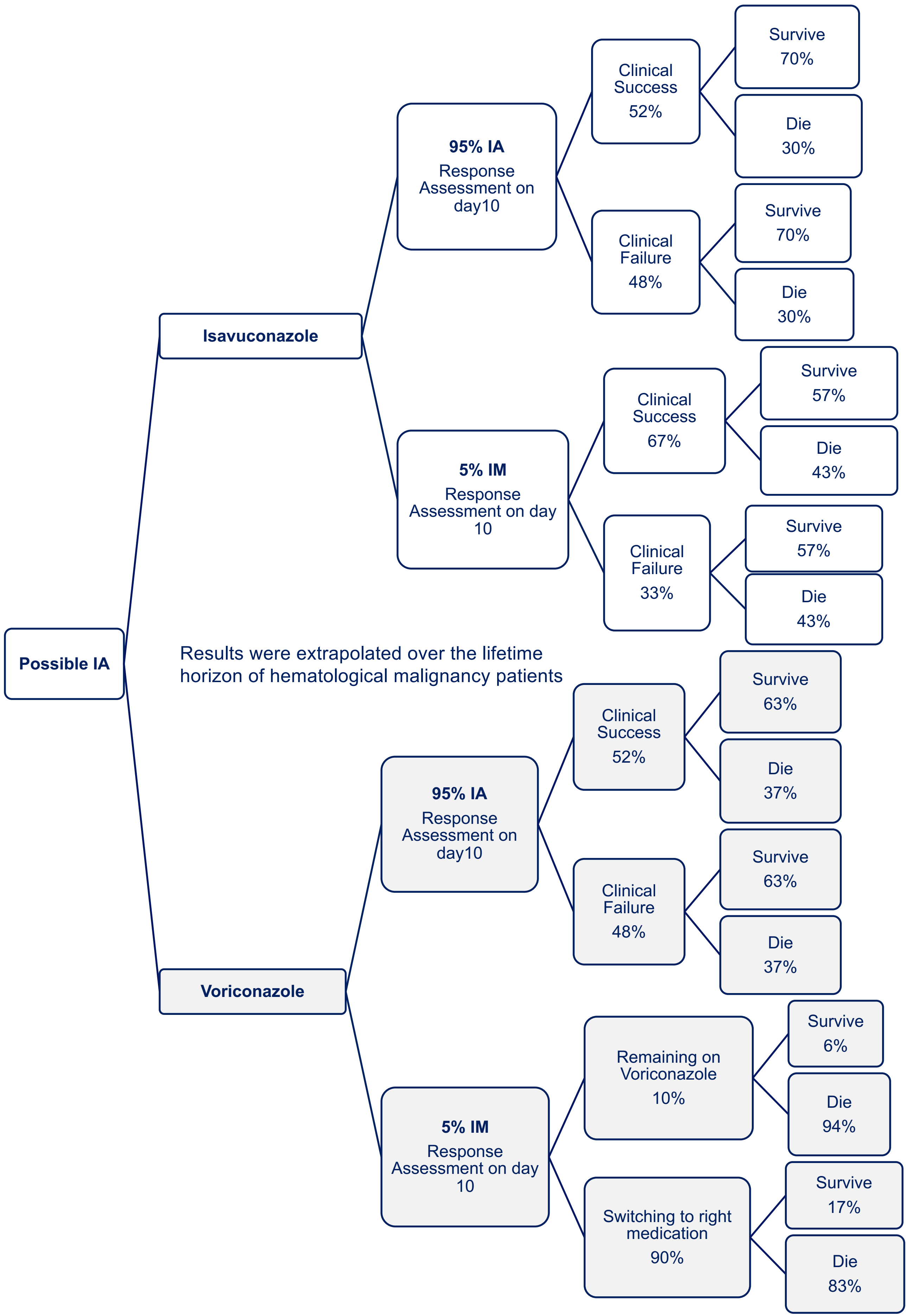
Invasive Aspergillosis (IA) is a severe fungal infection with high morbidity and mortality, particularly among immunocompromised patients. The selection of an optimal antifungal treatment is essential to improve clinical outcomes and ensure efficient use of healthcare resources. Isavuconazole, a novel broad-spectrum azole, has recently been introduced in Morocco.

Objective

This study aims to evaluate the cost-effectiveness of Isavuconazole compared to voriconazole for the treatment of IA from Moroccan healthcare payer perspective.

Method

A cost-utility analysis using a decision tree model was conducted. Patients with possible IA were included, with 5% estimated to actually have mucormycosis.



**Data and clinical definitions were sourced from published clinical trials and medical guidelines then adapted to the Moroccan context and local epidemiological data.

Medication	Strength	Presentation	Public Price
Vfend™ IV Voriconazole	200mg	1 vial	USD 67.98
Vfend™ oral Voriconazole	200mg	15 tablets	USD 204.5
Ambisome™ IV Liposomal Amphotericin	50mg	1 vial	USD 110.7
Cresemba™ Capsules Isavuconazole	100mg	14 capsules	USD 626.5
Cresemba™ Vial Isavuconazole	200mg	1 vial	USD 383.34

Only direct medical costs were considered, including cost of medications acquisition, intravenous administration, treatment switching, step-down therapy, nephrotoxicity management, and laboratory monitoring.

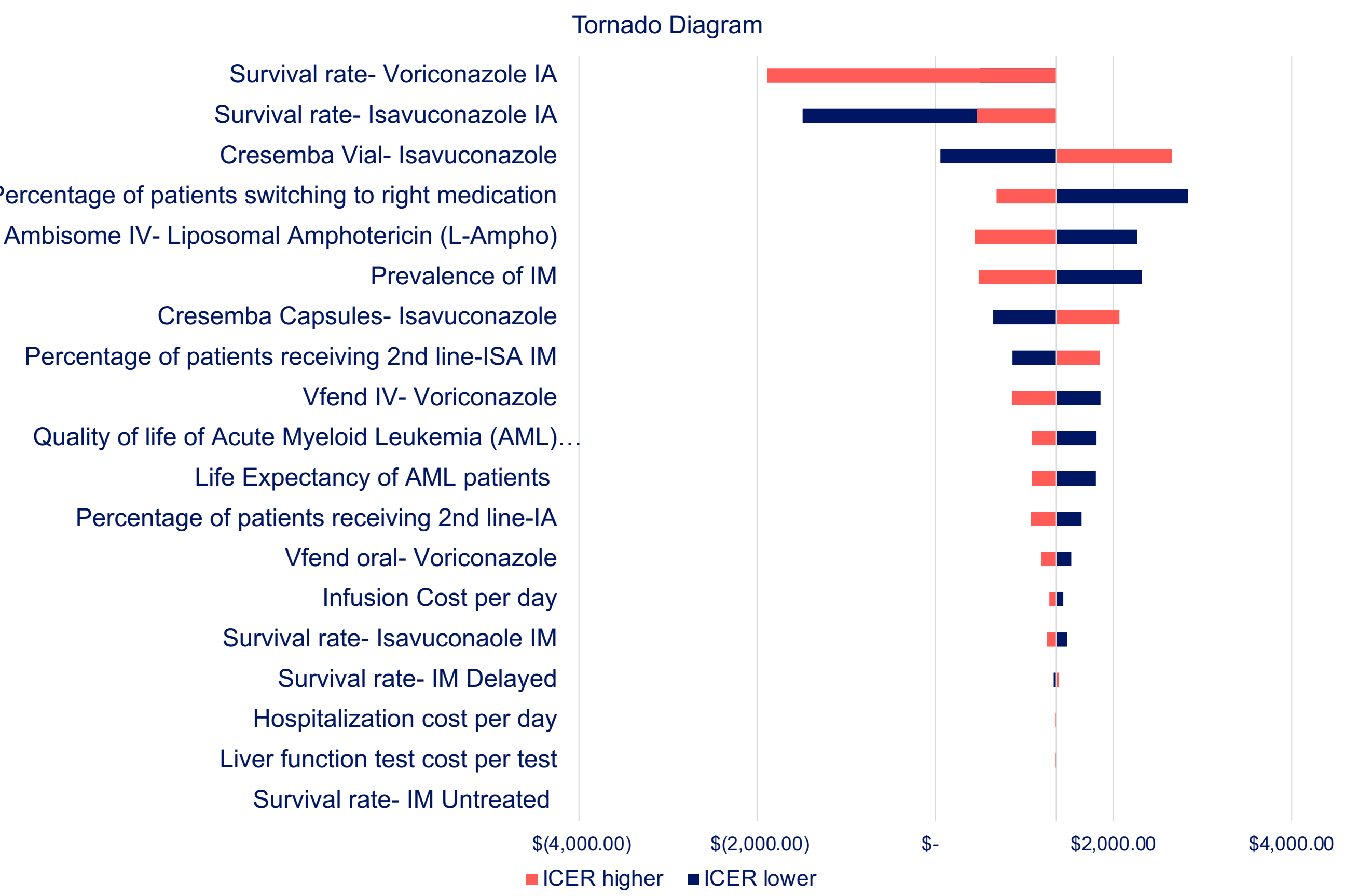
Results

The total cost of Isavuconazole was 13,964.57 USD for IA and 2,860.05 USD for mucormycosis. For voriconazole, the costs were 9,886.44 USD and 5,712.68 USD, respectively. The QALYs gained were 7.19 for Isavuconazole and 6.29 for Voriconazole.

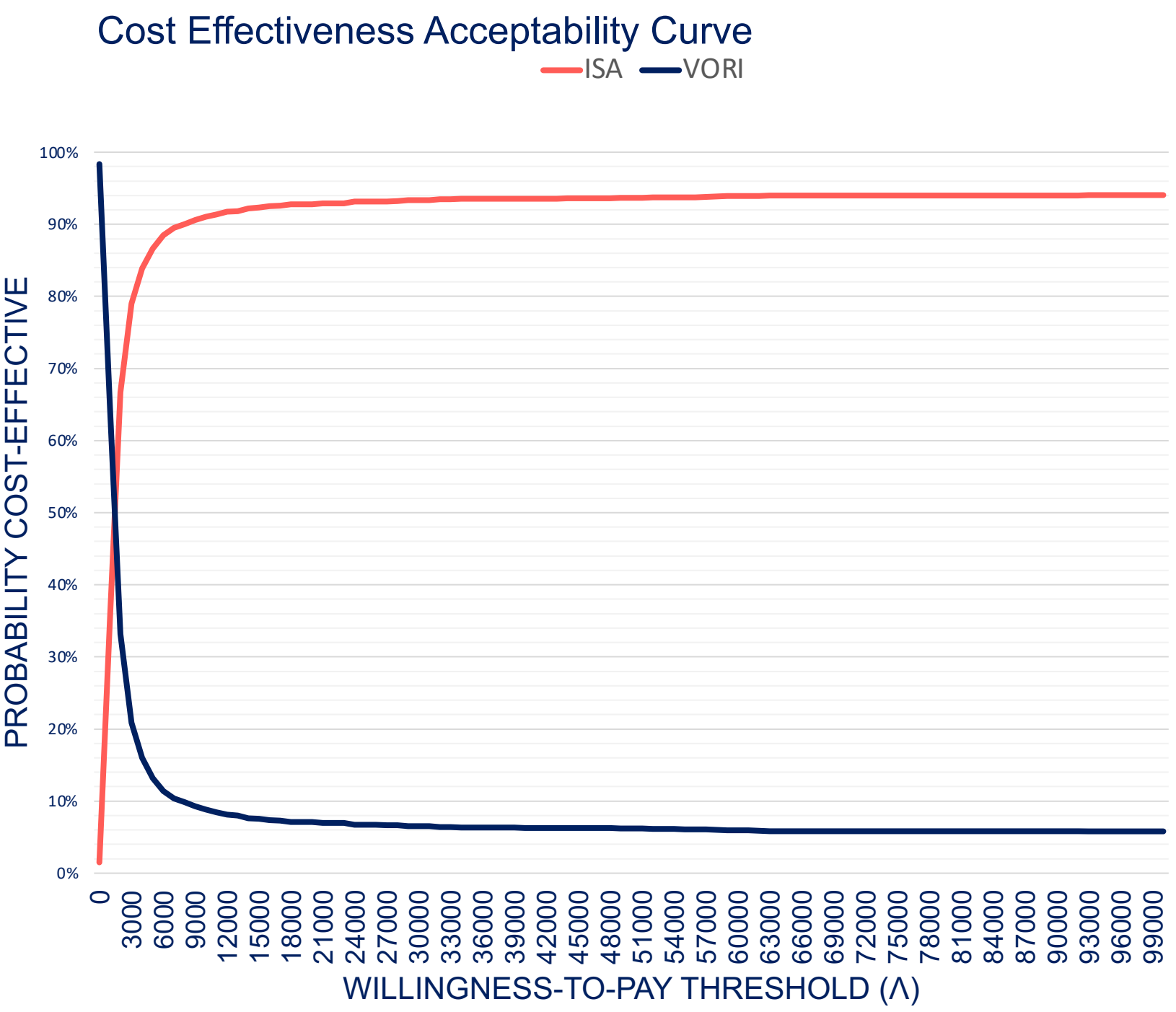
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Difference in Cost (USD)	USD 1,225.50
Difference in QALYs	0.903
ICER (USD/QALY)	USD 1,357.05
ICER (MAD/QALY)	MAD 12,565.84
Morocco GDP per capita (2023 est.) **	USD 8,900
Estimated ICER Threshold (USD/QALY)	USD 8,900 – 26,700

Exchange Rate (1 USD = 9.25 MAD)

Model sensitivity was highest to switching probability of voriconazole to liposomal amphotericin in case of Mucormycosis and survival rates in IA.



Probabilistic Sensitivity analysis confirmed that Isavuconazole is 80% cost-effective at willingness-to-pay threshold of 3,500 USD/QALY which is below three times the GDP per capita for Morocco.



Conclusion

Isavuconazole is a cost-effective treatment for IA in Morocco. These findings support its use in clinical practice and may support clinicians in optimizing therapeutic decisions.

References: 1- Floros L, Kuessner D, Posthumus J, Bagshaw E, Sjölin J. Cost-effectiveness analysis of isavuconazole versus voriconazole for the treatment of patients with possible invasive aspergillosis in Sweden. BMC Infect Dis. 2019 Feb 11;19(1):134. doi: 10.1186/s12879-019-3683-2. PMID: 30744563; PMCID: PMC6371439. 2- **Real GDP per capita (USD) estimate 2023 –Morocco. The World Factbook. Available at: <https://www.cia.gov/the-world-factbook/countries/morocco/> (Accessed: 26 April 2025).