

EE487

# Cost-Effectiveness Analysis of Isavuconazole Versus Liposomal Amphotericin for the Treatment of Invasive Mucormycosis in Jordan

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## Introduction

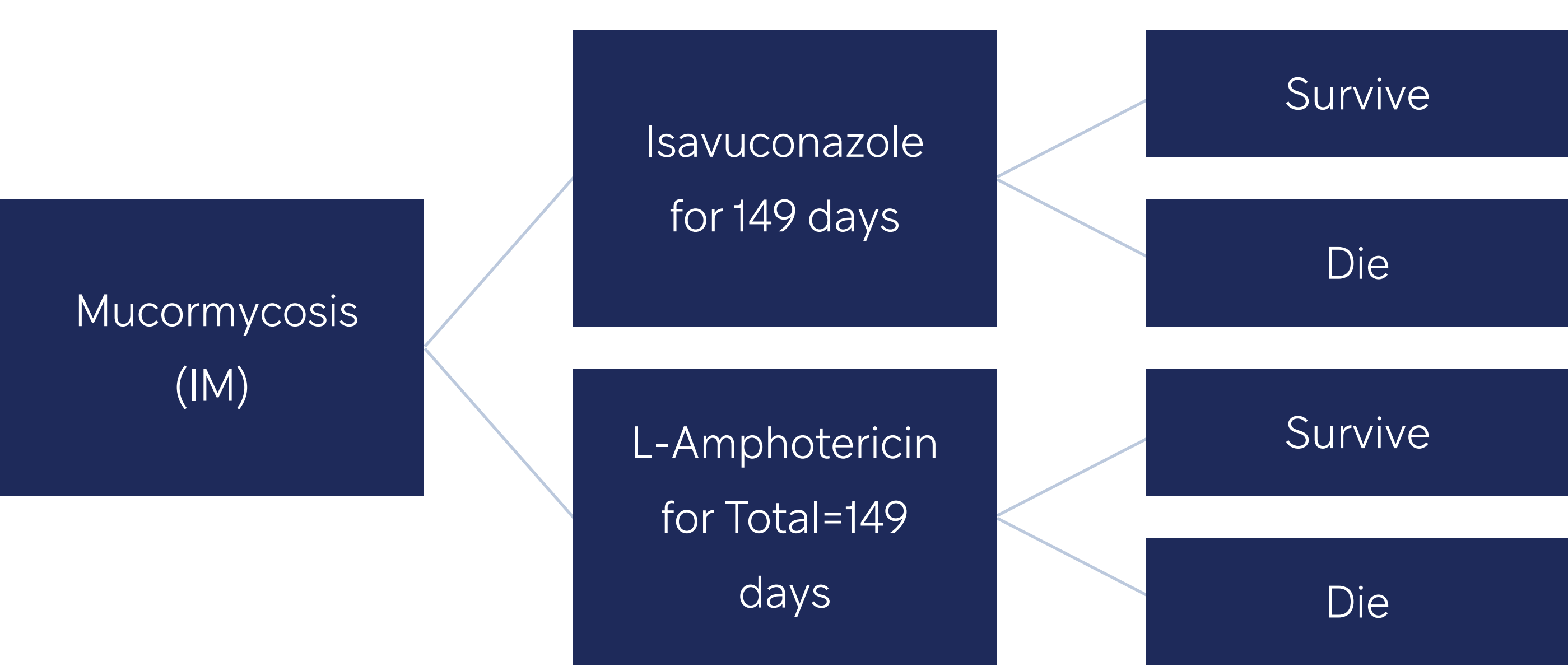
Invasive Aspergillosis (IA) and Mucormycosis (IM) continue to be life-threatening conditions associated with high rates of morbidity and mortality<sup>1</sup>. In Europe, the standard of care for the initial management of Mucormycosis is liposomal Amphotericin B (combined with surgical debridement). Isavuconazole, a new antifungal agent with a broader pathogen spectrum, demonstrated effectiveness in the management IM patients.

## Objectives

The aim of this study was to develop an economic model that examine the cost-effectiveness of Isavuconazole versus liposomal amphotericin B for the treatment of IM in Jordan.

## Method

We conducted a cost-utility analysis comparing Isavuconazole (IV therapy for 15 days followed by 134 days oral therapy) and liposomal amphotericin B (IV therapy for 149 days) for the treatment of IM using a decision tree model.<sup>2,3</sup>



As direct costs associated with IM management, the cost of medications, the cost of medication administration, the cost of lab test monitoring, and hospitalization costs were calculated. The Jordanian Food and Drug Administration was contacted for information regarding the cost of medications.

Medication	Strength	Presentation	Public Price (JOD)
Liposomal Amphotericin (L-Ampho)	50 mg	1 vial	JOD 97.90
Isavuconazole	100mg	14 tablets	JOD 503.64
Isavuconazole	200mg	1 vial	JOD 280.80
Input	Cost (JOD)	Reference	
Hospitalization cost (per day)	JOD 70.00	Average Cost in 4 Private Hospitals in Jordan	
Infusion cost (per 1 administration)	JOD 30.00	Average Cost in 4 Private Hospitals in Jordan	
Liver Function tests (per test)	JOD 25.00	Average Cost in 4 Private Hospitals in Jordan	

## Results

The total cost for the treatment of IM was estimated to be 17,595.1 Jordanian Dinar (JOD) (one JOD equals 1.41 USD) for Isavuconazole and 109,001.8 JOD for liposomal amphotericin B. The estimated quality-adjusted life year (QALY) associated with Isavuconazole treatment for IM was 5.6088 QALY. The estimated QALY associated with liposomal amphotericin B treatment for IM was 4.92 QALY.

	Total Cost	Presentation	
Isavuconazole Cost		LYG	QALY
IM	JOD 17595.07	6.84	5.6088
Liposomal Amphotericin Cost			
IM	JOD 109001.84	6	4.92

The incremental cost-effectiveness ratio (ICER) for the use of Isavuconazole versus liposomal Amphotericin B for the treatment of IM was -132,704.4 JOD per QALY gained.

	Isavuconazole Versus L-Amphotericin for the treatment of Invasive Mucormycosis (IM) in Jordan
Difference in Cost	- 91406.77 JOD
Difference in QALYs	+ 0.6888
ICER	-132704.37 JOD per QALY gained (Dominant)

## Conclusions

Our model indicates that Isavuconazole is a cost-effective treatment option for IM in Jordan. Our findings can assist clinicians and healthcare decision-makers in prescribing cost-effective medications for patients with IM. Thus, healthcare resources will be utilized more efficiently.

## References:

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