

# Clinical Presentation, Treatment, and Outcomes for PWH with Histoplasmosis in Memphis, Tennessee

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## Introduction

There are limited data on the presentation, treatment, and outcomes in persons with HIV (PWH) with histoplasmosis in the era of modern antiretroviral therapy (ART). We conducted a retrospective review of PWH presenting with histoplasmosis in Memphis, TN.

## Methods

All cases of PWH with Histoplasmosis diagnosed or treated between 1/1/2013 and 12/31/2019 at our site were included. Exclusion criteria were 1) cases captured in obsolete and inaccessible EMRs and 2) participants who died before completing their course of antifungals. We extracted data for baseline demographics, presentation, treatment, and outcomes by chart review. Outcomes were then compared between those receiving short ( $\leq 7$  days) and longer courses ( $> 7$  days) of amphotericin B by pooled T-tests and Chi-Square tests. All analyses were performed using SAS 9.4 (Cary, NC).

## Results

Thirty-four subjects were included. Mean age was 41 years, 73% were male, and 91% were Black (Table 1). 79% met SIRS criteria and 6% met HLH criteria (Table 2). Median time to antifungal initiation was 1.5 days after presentation, and 68% were initially started on amphotericin B, 60% of whom were treated for  $\leq 7$  days before switching to itraconazole (Table 3). There were no significant differences in outcomes between those treated for  $\leq 7$  days or  $> 7$  days of amphotericin B (Table 4).

Table 1. Baseline Patient Demographics, N=34.

Category	Value
Hospitalized, N (%)	30 (88.24)
Age, Years	41 (9.02)
Gender	
Male, N (%)	25 (73.53)
Female, N (%)	9 (26.47)
Race	
White, N (%)	1 (2.94)
Black, N (%)	31 (91.18)
Other, N (%)	2 (5.88)
CD4 Cell Count, Cell/ $\mu$ L <sup>a</sup>	15 (6, 34)
HIV Viral Load, Copies/mL <sup>a</sup> N=34	415,220 (48,910, 882,450)
HIV Duration, years <sup>a,b</sup> N=29	3.25 (0.18, 9.84)

a = reported as Median (25th percentile, 75th percentile) due to skewness of data

b = omitted cases where HIV diagnosis year was not known

Table 2. Presenting Symptoms and Clinical Data, N=34.

Category	Value
Presenting Symptoms	
Weight loss > 5kg, N (%)	21 (61.76)
GI symptoms, N (%)	22 (64.71)
Respiratory symptoms, N (%)	19 (55.88)
Met SIRS criteria, N (%)	27 (79.41)
Required ICU Stay, N (%)	2 (5.88)
Met HLH criteria, N (%)	2 (5.88)
Peak LDH, (N=28) <sup>a</sup>	1,297 (602, 2,751)
Peak Ferritin (N=14) <sup>a</sup>	9,680 (2,202.5, 44,100)
WBC Nadir, Cells/ $\mu$ L <sup>a</sup>	1.95 (1.2, 3.1)
Platelet Nadir <sup>a</sup>	76.5 (32, 121)
Hemoglobin Nadir	8.01 (1.92)

a = reported as Median (25th percentile, 75th percentile) due to skewness of data

Table 3. Treatment Details, N=34.

Category	Value
Time to Initial Treatment, Days <sup>a</sup>	1.5 (0, 4)
Initial Treatment	
Itraconazole, N (%)	11 (32.35)
Amphotericin B, N (%)	23 (67.65)
Duration of Amphotericin Treatment (N=25), days <sup>ab</sup>	
$\leq 7$ days, N (%)	15 (60)
$> 7$ days, N (%)	10 (40)
Duration of Total Targeted Treatment Years	2.05 (1.34)

a = reported as Median (25th percentile, 75th percentile) due to skewness of data

b = note: two individuals initially started on itraconazole were later switched to amphotericin during their treatment

## Conclusions

Histoplasmosis was diagnosed in PWH who were predominantly black men with low CD4 counts and high viral loads. Appropriate antifungal therapy was started quickly, and participants received relatively short courses of amphotericin B. Shorter courses of amphotericin B had shorter observed hospitalizations without higher recurrence rates. Further research on the optimal duration of antifungal therapy in this population is warranted.

Table 4. Outcomes by duration of amphotericin B treatment, N=25.

	Overall	$\leq 7$ Days	$> 7$ Days	p-value
Hospital duration, median days (IQR) N=25	7 (4, 11)	7 (4, 9)	10.5 (6, 14)	0.21
Recurrent disease, N (%)	6 (24)	1 (10)	5 (33)	0.18

Abbreviations: IQR, interquartile range  
p-value calculated by pooled T-test (hospital duration) and Chi-Square test (recurrent disease).

Note: one additional episode of recurrent disease occurred in a patient treated with itraconazole, not amphotericin B, so is not represented in this table.

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