1712. *Candida auris*: A Case Series at a Large Tertiary Care Medical System

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Background. *Candida Auris* has become one of the most feared pathogens globally in a relatively short period of time and, despite increased awareness, its incidence continues to rise. Recently there has been growing concern regarding drug resistance, difficulty in identification, as well as problems with eradication.

Methods. Loyola Medicine includes Loyola University Medical Center, a large tertiary care transplant center, and Gottlieb Memorial Hospital, a community-based medical center. Both hospitals have reported cases of *Candida auris* infection. We reviewed the microbiology laboratory data and clinical information of all positively identified cases over a 17-month period.

Results. *Candida auris* was isolated from 14 patients in cultures from blood, urine, wounds, and respiratory secretions. Matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS; Burker, Biotyper RUO) was used for identification in all of the cases and susceptibility testing was performed using microbroth dilution (Sensititre, YeastOne) for all isolates. 7/14 isolates (50%) were considered resistant to fluconazole; however, none were multi-drug resistant. All 14 isolates (100%) were considered susceptible to echinocandins. In addition, all patients were critically ill and had multiple comorbidities.

Conclusion. *Candida auris* is an emerging global health threat with increasing incidence of infection. Awareness of the pathogen, appropriate contact precautions, and laboratory methods of identification are necessary. Given increasing drug resistance, we recommend susceptibility testing on all isolates.

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1713. Impact of False-Positive Low-Titer Cryptococcal Antigen Testing

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Background. At University of Kentucky (UK) HealthCare, the transition from latex agglutination testing (Remel, Lenexa, KS) to IMMY Cryptococcal Antigen Lateral Flow Assay (CrAg LFA) occurred in September 2016. A few months later, it was noticed that several cryptococcal cases were diagnosed with weak positive test results where the diagnosis could not be confirmed by additional testing. The purpose of this study was to analyze the characteristics of these patients, and to assess the interventions they received based on positive results.

Methods. This was a retrospective study of the patients with positive CrAg LFA treated at UK HealthCare from November to December 2016. Low antigen titers (≤ 1:20) were considered to be false positive if repeat testing with the Remel Cryptococcal Latex assay, IMMY latex and IMMY microwell EIA were negative, cultures and histopathology were negative and there was no clear clinical evidence of infection.

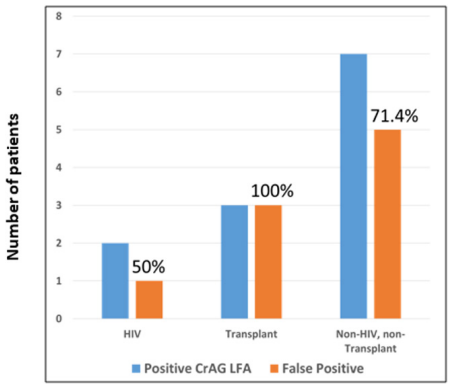
Results. During this 2-month period, CrAg LFA was positive in 12 patients. The diagnosis of cryptococcosis could not be confirmed by additional testing in 9 (75%) individuals. Cirrhosis/liver disease was present in 3 (33.3%) patients, 5 (55.6%) underwent lumber puncture and antifungal therapy was administered in 8 (88.9%) patients (Table 1). CrAg LFA was false positive in 1/2 (50%) HIV, 3/3 (100%) transplant, and 5/7 (71.4%) non-HIV/non-transplant patients (Figure 1). Among the false positives, 4 (44.4%) patients had titer of 1:5, two (22.2%) had 1:20, and the original positive screen was not detected upon titration in 3 (33.3%) other patients. One HIV patient received a complete treatment course for unconfirmed cryptococcal meningitis because an LP could not be performed.

Conclusion. False-positive low CrAg LFA titers led to unnecessary tests, antifungal treatments and prolonged hospitalization in some patients. One-third of these individuals had cirrhosis/liver disease. Other institutions also reported false-positive low CrAg LFA titers. As a result, the company staged a recall of the specific lot and corrected the problem in reagent manufacturing. Low-positive titers using CrAg LFA should be interpreted carefully and further testing should be considered as determined by the clinical situation.

Table 1: Characteristics and Treatment of Nine Patients with False Positive Results

Characteristics	N(%)
Age	51.7 (25-85) years
Male	8 (88.9%)
Cirrhosis/Liver disease	3 (33.3%)
Underwent Lumber Puncture	5 (55.6%)
Antifungal Therapy	8 (88.9%)
Antifungal Therapy for > 4 weeks	3 (33.3%)

Figure 1: False Positive CrAg LFA Results



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1714. Testing a Novel Clinical Surveillance Case Definition for Invasive Mold Infections

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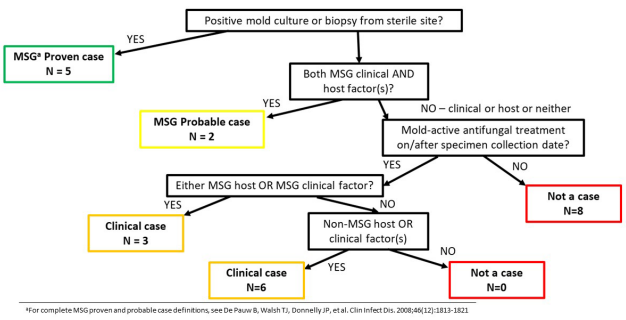
Background. Invasive mold infections (IMI) such as aspergillosis and mucormycosis are often fatal among immunosuppressed patients and have caused high-profile outbreaks. Surveillance for IMI is challenging because distinguishing a case from colonization or contamination is complex. The established case definition, Mycoses Study Group (MSG) criteria, lacks sensitivity. Because the need for surveillance remains, we designed a pilot IMI surveillance system within the Georgia Emerging Infections Program. Here, we describe cases identified through this system, using both the MSG criteria and a novel, more sensitive clinical case definition.

Methods. To identify potential IMI cases, we captured fungal cultures positive for mold, histopathology specimens with evidence of fungal tissue invasion, and positive galactomannan results within a 60-day window at three large hospitals in Atlanta during March 2017–2018. We excluded dimorphic fungi and hair and nail specimens. Of 194 potential cases, we selected 24 for complete medical chart review. Two physicians classified cases as proven, probable, or non-case according to MSG criteria. Cases that partially met MSG probable criteria and included antifungal treatment were classified as clinical cases; definitions were mutually exclusive (Figure 1).

Results. Of 24 potential IMI cases, 16 (66%) met an IMI case definition, including 5 proven, 2 probable and 9 clinical cases. Inter-rater agreement was 92%., Most (5/7) MSG cases involved *Aspergillus* and were more likely to have cancer, a transplant, or other immunosuppression compared with clinical cases (Figure 2 and 3). Clinical cases included conditions not specified in MSG criteria, including burns (1), wounds (1) or eye (4) infections. MSG and clinical cases more often had antifungal treatment (16/16 vs. 1/8) or died (4/16 vs. 0/8) compared with non-cases.

Conclusion. In this preliminary analysis of potential IMI cases, most represented true invasive infections, indicating effective exclusion of most colonization. Most of the 16 cases were classified as clinical, however, and would have been missed in a system relying on the MSG criteria alone. Results suggest that a less-specific clinical case definition incorporating antifungal treatment may improve the sensitivity and utility of IMI surveillance.

Figure 1: Case Classification Algorithm



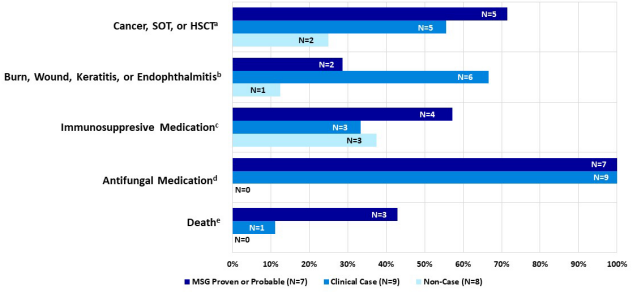
[a]For complete MSG proven and probable case definitions, see De Pauw B, Walsh TJ, Donnelly JP, et al. Clin Infect Dis. 2008;46(12):1813-1821

Table 1: Site of Incident Specimen and Mold Species Identification

	MSG Proven or Probable (N=7)	Clinical Case (N=9)	Non-case (N=8)
	N	N	N
Site of Specimen			
Pulmonary	3	3	2
Sinus, nasal, or facial	0	0	4
Other Skin Lesion	1	1	2
CNS	0	4	0
Other[a]	3	1	0
Final Mold Identification			
Aspergillus	5	2	2
Mucormycetes	1	0	0
Fusarium	1	2	0
Other[b]	0	5	6

[a]Other sites of specimen: soft tissue, blood/serum
[b]Other molds: *Curvularia* (*Bipolaris*), *Exophiala*, *Acremonium*, *Cladosporium*, *Paecilomyces*

Figure 2: Attributes of IMI Cases and Non-cases from March 2017-March 2018 (N = 24)



[a]SOT: Solid organ transplant; HSCT: hematopoietic stem cell transplant
[b]These conditions were grouped because they are clinical IMI presentations not covered by MSG
[c]Includes corticosteroids, biologics, TNF inhibitors
[d]Includes any systemic mold-active antifungal medication and eye drops
[e]Death occurring within 60 days of incident mold specimen

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1715. Coccidioidomycosis Outcomes Among Hospitalized Pregnant and Postpartum Women—California, 2000–2016

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Background. Coccidioidomycosis (CM) in pregnancy has been associated with severe, disseminated disease. Publications are largely limited to case reports. Using California administrative hospital and birth registry data, we describe maternal and neonatal outcomes among pregnant and post-partum women hospitalized with CM.

Methods. We extracted California records from 2000 to 2016 for women 14–45 years, hospitalized with CM discharge codes; and used the birth registry to identify women who were pregnant or post-partum (≤30 days of childbirth) during their hospitalization. We used chi-squared tests to compare pregnant/post-partum women hospitalized with CM to nonpregnant women hospitalized with CM, and birth outcomes for infants of mothers hospitalized with CM to other California infants. We used multivariable logistic regression, controlling for demographics and comorbidities, to determine the risk of pregnancy on CM dissemination.

Results. We identified 2,372 women with ≥1 CM hospitalization; 187 (8%) were pregnant/post-partum and there were 188 infants (one set of twins). Pregnant/post-partum women were more likely to be Hispanic (59% vs. 44%, $P < 0.01$), younger (median age 27 vs. 35 years, $P < 0.01$), without comorbidities (60% vs. 36%, $P < 0.01$), and have disseminated CM (32% vs. 21%, $P < 0.01$) than nonpregnant women. Hospitalized pregnant/post-partum women with CM were more likely to have CM dissemination compared with hospitalized non-pregnant women with CM (odds ratio 2.0, 95% confidence interval 1.4–2.8). Among infants of pregnant women hospitalized with CM, 18 (10%) were born < 34 weeks gestational age and 11 (8%) of 134 term (>37 weeks) infants had a birth weight <2,500 g; compared with 3% and 3% ($P < 0.01$) of other California liveborns, respectively.

Conclusion. This study is the largest cohort of pregnant women hospitalized with CM to date and corroborates that pregnant/post-partum women are more likely to develop disseminated CM than non-pregnant women. Their infants may be more likely to be born <34 weeks gestational age and have a low birth weight. This highlights the need for clinicians caring for pregnant/post-partum women who may live or travel to an area where CM occurs to be aware of the risks for these women and their infants.

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1716. Baseline Serum C-Reactive Protein Level Predicts Mortality in Cryptococcal Meningitis

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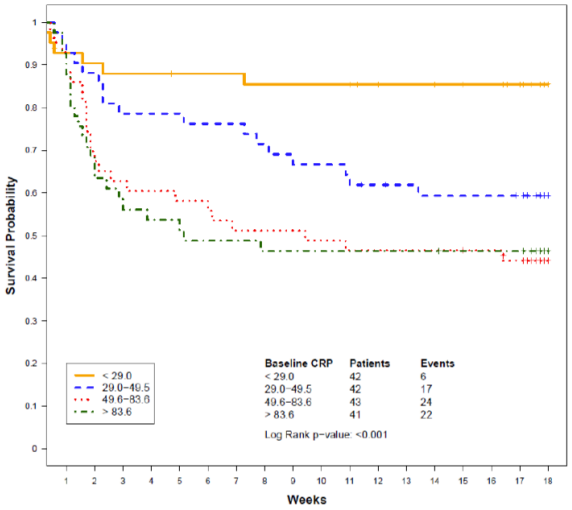
Background. C-reactive protein (CRP) is an acute-phase protein produced by the liver in response to systemic inflammation. CRP is a helpful surrogate biomarker widely used in various infections, particularly for following the progression and resolution of infection. We aimed to determine the association between baseline CRP level and cryptococcal meningitis outcome.

Methods. We reviewed 168 prospectively enrolled HIV-infected Ugandans with confirmed first-episode cryptococcal meningitis. Baseline serum samples collected within 5 days from diagnosis had CRP levels measured and categorized into quartiles. We compared baseline serum CRP with 18-week survival using unadjusted time-to-event analysis.

Results. Of 168 participants, the first quartile of baseline serum CRP was 83.6 mg/L. Baseline CD4 count, HIV viral load, and cerebrospinal fluid results did not differ by quartile. Participants with CRP > 49.5 mg/L more likely presented with Glasgow Coma Scale <15 ($P = 0.03$). The 18-week mortality rate was 54.8% (46/84) in the highest two quartile CRP groups (49.5 mg/L), 40.5% (17/42) in the mid-range CRP group (29–49.5 mg/L), and 14.3% (6/42) in the low CRP group (<29 mg/L) ($P < 0.001$) (Figure 1).

Conclusion. Higher baseline serum CRP is associated with increased mortality in HIV-infected individuals with first-episode cryptococcal meningitis. The serum CRP could be a surrogate marker for undiagnosed co-infections or may reflect immune dysregulation leading to worse outcomes in persons with advanced AIDS and concomitant cryptococcal meningitis. Additional studies investigating more specific inflammatory biomarkers and the longitudinal trend in CRP with effective therapy would be informative.

Figure 1. Kaplan-Meier plot of cumulative survival stratified by baseline serum CRP quartiles



Disclosures. **All authors:** No reported disclosures.

1717. Cryptococcal Meningitis: A Comparison of Clinical Features and Outcomes by HIV Status

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Background. Cryptococcal meningitis is an opportunistic fungal infection associated with HIV and other forms of immunosuppression. We lack a clear understanding of cryptococcal meningitis (CM) among HIV-negative patients in the United States. Our aim was to compare clinical features and outcomes across HIV status in patients with laboratory-confirmed cryptococcal meningitis.

Methods. We conducted a retrospective cohort study of patients with laboratory-confirmed (positive culture or antigen test) cryptococcal disease treated at a tertiary care center from January 2000 to September 2018. Patients were identified via local laboratory and TrinetX datasets. Data were gathered on demographics, HIV status, site of infection, clinical presentation, cerebrospinal fluid (CSF) profiles, hospital course, and mortality. Organ transplant recipients and/or non-meningeal infections were excluded.

Results. Seventy patients with cryptococcal disease were identified. Our final sample included 36 CM patients with a mean age of 48.8 ± 13.2 years; 66.7% (n = 24) had HIV. Median (IQR) absolute CD4 count for the HIV group was 35/μL (10–80/