Of the negative tests, 1 patient had a false negative T2MR result despite blood cultures growing *C. glabrata*. There was only 1 invalid test in our sample. Thirty-six patients were initiated or maintained on anti-fungal therapy at the time of the T2MR test, with micafungin being the most commonly prescribed anti-fungal agent. Negative T2MR patients had a median anti-fungal therapy duration of 2 days (IQR, 0–16). Sixteen patients (44%) had their anti-fungal therapy discontinued within 1 day of the negative T2MR result. There were no patients with a negative T2MR result who subsequently developed candidemia within 30 days after T2MR testing.

Conclusion. Our study showcases the benefit seen with T2MR in curtailing unnecessary anti-fungal exposure. Study limitations include a small cohort and evaluation at a single center. There is an opportunity for this technology to be utilized in anti-fungal stewardship.

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

271. Fungal Diagnostic Studies in Histoplasmosis

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Background. Histoplasmosis (histo) is a common cause of invasive fungal infection in endemic regions and accurate diagnosis is difficult without direct tissue culture or pathology. Indirect fungal antigen testing for various fungal pathogens is typically performed to assist with diagnostic workup though cross-reaction can lead to difficulty interpreting results. We aimed to evaluate the prevalence of positive antigen testing for non-*Histoplasma* fungal pathogens in patients with proven invasive histo.

Methods. We performed a retrospective review of adult patients with proven invasive histo from 2010–2018 at our institution. For inclusion purposes, histo was confirmed by either fungal culture and/or cytology. Patient demographics, clinical characteristics and results of fungal antigen testing for *Histoplasma, Blastomyces, Aspergillus*, *Cryptococcus* and β-D-glucan were evaluated. Two different urine *Histoplasma* antigen assays were used during the study period.

Results. 57 (31%) of 182 patients diagnosed with histo during the study period had culture or cytology evidence of disease and were included in all further analysis. Thirty-two (56%) of these patients were male, 35 (61.4%) were Caucasian and the mean age was 50.1 years. HIV (20; 35%) and being on immunosuppressive medications (21, 37%) were common in this population. The majority of cases were classified as disseminated histo (40, 70%) followed by acute pulmonary (10; 18%) and chronic pulmonary (7, 12%) disease. Results of fungal antigen testing are documented in the table. Chi-squared analysis was performed.

Conclusion. There is a frequent cross reaction of non-*Histoplasma* fungal tests in patients with histo. In our review, there was a high rate of cross reaction with *Blastomyces* antigen, which can be confusing in regions where both pathogens coexist. Elevation of β-D-glucan was high in these patients. Urine *Histoplasma* antigen sensitivity was higher with MiraVista testing for disseminated disease in our review. While noninvasive fungal tests are helpful in diagnosis of these infrequent infections, clinicians must still maintain knowledge of the clinical differences between these fungal pathogens and be aware of the limitations of these tests. A prospective study is needed to better define differences between individual *Histoplasma* tests.

TABLE

TABLE showing results of *Histoplasma* and non-*Histoplasma* urine antigen tests

Histoplasmosis Presentation N=57	Urine *Histoplasma* Antigen (%)	Urine *Blastomyces* Antigen (%)	Serum *Cryptococcus* Antigen (%)	Serum *Aspergillus* Antigen (%)	Serum Beta D glucan Antigen (%)
Acute pulmonary (n=10) Viracor Miravista* (NS)	4/5 (80) 0/0 (-) 4/5 (80)	1/2 (50)	0/1 (0)	1/4 (25)	0/2 (0)
Chronic Pulmonary (n=7) Viracor Miravista* (NS)	0/4 (0) 0/2 (0) 0/2 (0)	0/4 (0)	0/2 (0)	0/2 (0)	0/2 (0)
Disseminated (n=40) Viracor Miravista* (p=0.019)	26/37 (70) 8/16 (50) 18/21 (86)	25/27 (93)	1/19 (5)	12/20 (60)	21/24 (88)
Total **Viracor** **Miravista (p=0.017)**	**30/46 (65)** **8/18 (44)** **22/28 (79)**	**26/33 (79)**	**1/22 (5)**	**13/26 (50)**	**21/28 (75)**

*Chi square analysis

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

272. Invasive Pulmonary Aspergillosis: Comparative Analysis in cancer patients with Underlying Hematologic Malignancy vs. Solid Tumor

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Background. Over the years, the profile of patients with invasive pulmonary aspergillosis (IPA) has extended beyond the commonly associated population with hematologic malignancy (HM) and is now comprising patients with solid tumors and patients with lung diseases. We therefore aimed to compare the clinical characteristics, diagnostic approach and therapeutic outcome of IPA in cancer patients with hematologic malignancies vs. solid tumor (ST).

Methods. We conducted a retrospective study evaluating consecutive cases of proven and probable IPA from March 2004 to December 2016 in a tertiary cancer center. We included patients >18 years with an underlying ST, HM, or Hematopoietic Cell Transplantation (HCT) within 1 year of IPA diagnosis.

Results. A total of 311 patients were analyzed: 225 had HM including HCT and 86 ST. Patients with ST were more likely to have had COPD (33% vs. 8%, $P > 0.01$) or other underlying pulmonary diseases when compared with HM patients (76% vs. 43%, $P < 0.01$). Radiation therapy prior to the infection was also notably higher in the ST group than the HM group (48% vs. 14%, $P < 0.01$). Patients with HM were more likely to have received steroid (38% vs. 15%, $P = 0.0001$) and have concurrent neutropenia 37% vs. 2%, $P < 0.0001$). A. fumigatus was most commonly recovered in patients with ST than in patients with HM (66% vs. 38%, $P < 0.01$). Monotherapy and voriconazole-based primary antifungal therapy were more often prescribed in patients with ST than in patients with HM (87% vs. 56%, $P < 0.0001$ and 77% vs. 53%, $P = 0.0002$ respectively). Complete or partial successful response to therapy was recorded in 66% of patients with ST compared with 40% in the HM group ($P = 0.0001$). IPA attributable mortality within 12 weeks was significantly higher in the HM than in the ST group (30% vs. 18%, $P = 0.04$).

Conclusion. Monotherapy with voriconazole were more often prescribed in patients with ST than in patients with HM. Patients with ST had a better response to antifungal therapy and a lower IPA attributable mortality within 12 weeks compared with those with HM.

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273. Low Positive Predictive Value of β-D-Glucan in Hematology Patients Receiving Antimold Prophylaxis

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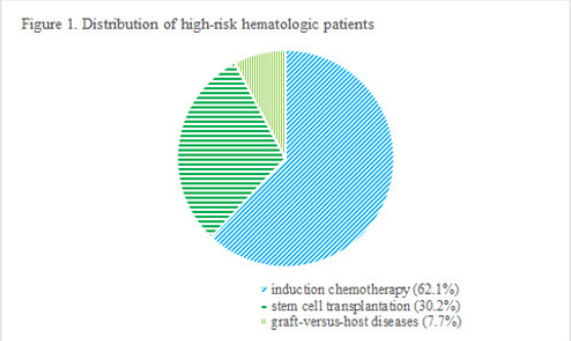
Background. Detection of β-D-glucan (BDG) in serum is recognized as the mycological evidence in the diagnosis of invasive fungal infection (IFI). However, its diagnostic value in low prevalence of IFI has not been elucidated. We aimed to examine the performance of BDG in hematology patients receiving antimold prophylaxis.

Methods. We retrospectively reviewed all BDG results performed for the purpose of diagnosis or surveillance for IFI in hematology patients receiving posaconazole or micafungin prophylaxis from January 2017 to February 2019 in a tertiary hospital. At least two consecutive positive results of BDG were regarded as positive BDG. All the episodes were classified into true-positive (TP, positive BDG with probable/proven IFI), true-negative (TN, negative BDG without probable/proven IFI), false-positive (FP, positive BDG without probable/proven IFI), false-negative (FN, negative BDG with probable/proven IFI), and nonevaluable (could not be determined for the occurrence of breakthrough IFI). When BDG test was performed in the setting of persistent fever ≥72 hours in spite of broad-spectrum antibiotics or with a suspicion of IFI, it was defined as a diagnostic BDG episode, while others were defined as a surveillance BDG episode.

Results. Of a total of 140 episodes, 24 episodes were non-evaluable. Among 116 evaluable episodes, 75 received induction chemotherapy for acute leukemia or myelodysplastic syndrome, 35 underwent stem cell transplantation, and 10 had intensive treatment for graft-vs.-host disease. There were three episodes of probable/proven IFI (2.6%). Ninety-one (78.4%) were performed with diagnostic purpose, while 25 (21.6%) were performed for surveillance. TP, TN, FP, and FN were 2 (1.7%), 91, 22, and 1, respectively. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value were 66.7%, 80.5%, 8.3% and 98.9%, respectively. PPV was 13.3% and 0% in diagnostic and surveillance BDG episodes, respectively.

Conclusion. The PPV of BDG was low in hematology patients receiving antimold prophylaxis, even in the diagnostic-driven episodes. The routine screening of BDG is not helpful, and the BDG test may be used for exclusion of IFI rather than for diagnosis in these patients.



	Probable/proven IFD(+)	Probable/proven IFD(-)
Beta-D-glucan assay(+)	2	22
Beta-D-glucan assay(-)	1	91

Table 1. Classification of all evaluable cases in this study

	Probable/proven IFD(+)	Probable/proven IFD(-)
Beta-D-glucan assay(+)	2	13
Beta-D-glucan assay(-)	1	75

Table 2. Classification of the diagnostic cases in this study

	Probable/proven IFD(+)	Probable/proven IFD(-)
Beta-D-glucan assay(+)	0	9
Beta-D-glucan assay(-)	0	16

Table 3. Classification of the screening cases in this study

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274. Impact of Fungal Serologies in the Management of Veteran Patients with Suspected Endemic Mycoses

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Background. Endemic mycoses are caused by the dimorphic fungi *Histoplasma capsulatum*, *Blastomyces dermatitidis,* and *Coccidiodes* species. Histoplasmosis and blastomycosis are endemic in Minnesota, with travel to coccidioidomycosis endemic areas being common. Diagnosis is challenging, in part due to confusion regarding laboratory testing. In our institution, we have observed that fungal serologies are often ordered when such infections are suspected, but results rarely seem to affect management. We reviewed the impact of serologic testing on the management of a Midwest veteran population.

Methods. Retrospective, observational study of patients with any serologic testing for endemic mycoses performed from January2014 to December 2018 at the Minneapolis VA Health Care System. To focus evaluation on the utility of serologic testing, we excluded patients with fungal antigen testing.

Results. Of 127 patients tested, 62 (49%) had only serologic testing. Patients were predominantly males (95%) with a median age of 66 years (range 27–93). Nineteen (31%) were tested in the hospital and had a median stay of 8 days (range 1–48). Median Charlson score was 4 (range 0–12). Travel to an endemic area for coccidioidomycosis was frequent (27/62: 44%), with Arizona being the most common destination (20/27: 74%). Median illness duration was 30 days (range 1–720). Respiratory symptoms predominated (43/62: 69%), followed by nonspecific (6/62: 10%), neurologic (5/62: 8%), and musculoskeletal (2/62: 3%) symptoms. Five (8%) were asymptomatic. Abnormal imaging was common, with 27/62 (44%) patients having an abnormal chest radiograph (consolidation 15%, nodules 11%, and interstitial pattern 8%), and 44/62 (71%) having abnormal CT findings (nodules 55%, ground glass opacities 18%, and consolidation 15%). Six patients (10%) had positive serology, but antifungals were started only in one case. Fungal serology results impacted management in 19/43 (44%) patients seen in clinic, but in 0/19 tested as inpatients ($P < 0.001$). The most common action (16/19: 84%) was to cease diagnostic workup (table).

Conclusion. Fungal serologies can be useful in patients evaluated in clinic who present with respiratory symptoms, abnormal imaging, and potential fungal exposure. Testing in hospitalized patients appears to offer little benefit.

Table. Characteristics of 19 patients in whom fungal serology resulted in management change	
Characteristics	N (%)
Male sex	19 (100)
Median age in years (range)	68 (27 – 87)
Evaluation setting	
Inpatient	0
Outpatient	19 (100)
Travel to coccidioidomycosis endemic area	12 (63)
Median duration of illness (range)	75 (4 – 720)
Reason for evaluation	
Respiratory symptoms	15 (78)
Non-specific symptoms	2 (11)
Asymptomatic with abnormal imaging	2 (11)
Imaging*	
Abnormal chest radiograph	10 (53)
Abnormal CT chest	16 (84)
Fungal serology testing*	
Coccidioides spp.	
Complement fixation	14 (74)
IgM/IgG by EIA	6 (32)
Immunodiffusion	3 (16)
Latex agglutination	2 (11)
Histoplasma capsulatum	
Complement fixation	12 (63)
IgM/IgG by EIA	1 (5)
Immunodiffusion	1 (5)
Blastomyces dermatitidis	
Complement fixation	12 (63)
Immunodiffusion	1 (5)
Average turn-around-time in days (range)	9 (4 – 15)
Management change	
Patients with positive serology	3 (16)
No further work-up ordered	1 (5)
Started antifungals	1 (5)
Stopped antifungals	1 (5)
Patients with negative serology	16 (84)
No further work-up ordered	15 (78)
Stopped antifungals	1 (5)

*Patients frequently had more than one imaging or serology testing done

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275. Delayed Diagnosis of Histoplasmosis in Pediatric Patients due to Atypical Clinical Presentations

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Background. Histoplasmosis is a systemic mycosis with a wide range of clinical manifestations which represents a diagnostic challenge. It affects immunocompromised patients but also, previously healthy individuals that are exposed to a large inoculum of *Histoplasma*. The aim of our study was to describe the clinical presentation, epidemiologic features, laboratory/imaging findings and outcome of pediatric patients with histoplasmosis.

Methods. a retrospective study including patients diagnosed as Histoplasmosis according to ICD-10 at a tertiary care center in Mexico City during 2009 to 2019. Clinical, epidemiological and laboratory/imaging data were gathered from each patient's clinical file.

Results. 5 patients with diagnosis of histoplasmosis were included; 2 patients were classified as proven with histopathologic confirmation, 2 patients as probable and 1 patient as possible according to the EORTC/MSG. The mean age of presentation was 7 years, 3/5 patients were male and 3/5 reported exposure to bats. Diagnosis was delayed by an average time of 6 months due to the variability of clinical presentations (progressive disseminated histoplasmosis, spinal histoplasmosis, cerebral histoplasmosis, intestinal histoplasmosis and mild acute pulmonary histoplasmosis). For the diagnosis, 1/5 had positive ELISA, 1/5 positive immunodiffusion (M band), 1/5 positive EIA in cerebrospinal fluid and 2/5 with histopathology findings that matched histoplasmosis. Pulmonary imaging with interstitial infiltrates in 4/5 and evidence of cavitation in one patient. Hemophagocytic syndrome was a complication in 1/5 and medullary syndrome was developed in the patient with spinal histoplasmosis which resolved with treatment. Liposomal amphotericin B was the treatment in 4/5, followed by itraconazole as the maintenance therapy.

Conclusion. This study shows variable clinical presentations of Histoplasmosis which resulted in an important delay in diagnosis. This study highlights the importance of diagnostic suspicion in both healthy children and immunocompromised patients, always taking into account epidemiological risks such as exposure to bats.

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