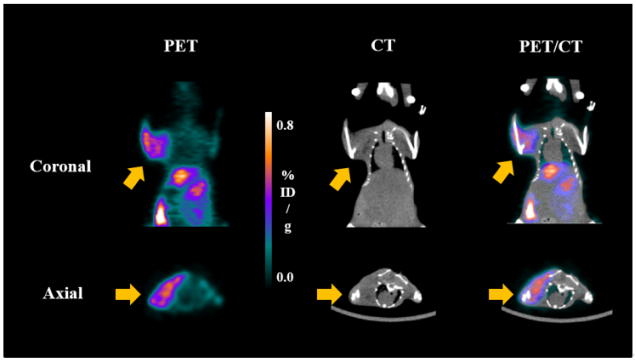

Figure 3. MicroPET, CT and PET/CT fusion images of a muscle infected model with *Aspergillus fumigatus* (yellow arrow) at 2 h after *i.v.* injection of [^{18}F]FDS.

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

261. A Retrospective Evaluation of Coccidioidomycosis Skin Testing in Patients with Pulmonary Coccidioidomycosis in an Endemic Region

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Background. Making the decision to stop antifungal therapy in patients with coccidioidomycosis can be challenging in patients with risk factors for relapsed infection. Spherulin-based coccidioidal skin testing was re-introduced to the market in 2014 and approved for the detection of delayed-type hypersensitivity in patients with a history of pulmonary coccidioidomycosis

Methods. We searched electronically for patients who had a spherulin skin test placed in our institution from January 1, 2015 through March 1, 2017, and then included patients age 18 years and older who met the definition for confirmed or probable pulmonary coccidioidomycosis. A retrospective chart review was conducted, and included details of clinical illness, antifungal treatment, serology, and chest imaging

Results. From January 1, 2015 to August 31, 2017, 172 patients with coccidioidomycosis had a spherulin skin test placed. We included for further study the 129 patients who had primary pulmonary coccidioidomycosis, followed for a median of 18 months (range 0–50 months); 56 (43.4/%) were male, 108 (85.7/%) Caucasian, median age was 55 years (range18–89).19/12914.7%)) were smokers, 14/129 (10.9%) were diabetic, 2 patients had HIV (1.6%) and 15/129 (11.6) we immunocompromised without HIV. 116/129(89.9%) % received antifungal treatment. Median time from illness to skin test was 13.5 months (range 0–78). Eighty-nine of 129 patients (69%) had a positive skin test, 40 (31%) had a negative test. Antifungal treatment was subsequently discontinued in 75/89 (84%), and one patient (1.2%) with a positive test, experienced relapsed infection. Among 30/40 with negative CST, antifungals were discontinued and none relapsed.

Conclusion. The presence of delayed-type hypersensitivity to coccidioidomycosis, manifested by a positive spherulin skin test, was associated with discontinuation of antifungal therapy, and a low percentage of relapsed infection.

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

262. Assessment of Serum Galactomannan Test Results of Pediatric Patients with Hematologic Malignancies According to Different Threshold Levels and Consecutive Positivity in Terms of Invasive Aspergillosis Diagnosis: Cross-Sectional Research in a Tertiary Care Hospital

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Background. The aim of this study was to evaluate the diagnostic utility of serum galactomannan (GM) test by investigating the impact of positivity according to different threshold levels and consecutiveness in terms of invasive aspergillosis (IA) in pediatric hematology-oncology patients.

Methods. Positive GM test results between January 2015 and August 2017 were reviewed, retrospectively. The children with hematological malignancies and GM positivity were included in the study and grouped according to the presence of IA. Impact of single and consecutive (3-day interval) GM positivity on IA diagnosis were evaluated according to different galactomannan index (GMI) threshold values of >0.5, >0.7, >1.0, and >1.5.

Results. There were 104 positive GM results from 70 patients. Forty-one patients (58.6%) had no clinical evidence of IA and categorized as the non-IA group. Invasive aspergillosis diagnosis was identified in 29 (41.4%) of the patients; 2 of them were proven and 27 were probable. Demographic characteristics and clinical findings of the patients were reviewed in Tables 1 and 2. According to different cutoff GMI values, the number of positive results was 104 for >0.5, 76 for >0.7, 57 for >1.0 and 32 for >1.5. The PPVs were low at a single GMI of >0.5 (39.4%) and reached to 50.0% with single GMI of >1.0. There was not a statistically significant difference between IA and non-IA groups in terms of different thresholds of a single GM positivity ($P > 0.05$) (Table 3). The number of two consecutive positive results was 34 for GMI of >0.5, 20 for GMI of >0.7, 13 for GMI of >1.0 and 4 for GMI of >1.5. In the IA group, GM positivity of consecutive results was significantly higher than non-IA group ($P < 0.05$). The PPVs of two consecutive positive results for GMI >0.5, GMI >0.7, GMI >1.0, and GMI >1.5 were 58.8%, 65.0%, 84.6%, and 100.0%, respectively. The effect of the GMI increase between two consecutive GM results on IA diagnosis (GM2-GM1 >0.5) was also evaluated and the PPV was found 53.8% without a statistical significance between two groups (Table 4).

Conclusion. When evaluated with consecutive GM positivity, the GM assay would have higher PPVs independently from the GMI cutoff value chosen. Since it may be more effective on IA diagnosis, consecutive sampling should be performed in pediatric patients at high risk.

Table 1. Demographic characteristics of the patients

	Total	IA	Non-IA	p
Patients	n=70 (%)	n=29 (%)	n=41 (%)	
Age (years)*	5.0 (1.0-16.0)	8.0 (1.0-15.0)	4.0 (1.0-16.0)	>0.05
Gender				>0.05
Female (%)	35 (50)	15 (51.7)	20 (48.8)	
Male (%)	35 (50)	14 (48.3)	21 (51.2)	
Underlying disease				>0.05
ALL	53 (75.7)	21 (72.4)	32 (78.0)	
AML	17 (24.3)	8 (27.6)	9 (22.0)	
Chemotherapy	54 (77.1)	23 (79.3)	31 (75.6)	>0.05
Induction	6 (8.6)	3 (10.3)	3 (7.3)	
Re-induction	3 (3.0)	2 (1.0)	1 (2.4)	
Consolidation	7 (10.0)	1 (3.4)	6 (14.6)	
Maintenance				

Table 2. Clinical characteristics of the patients

	Total	IA	Non-IA	p
Patients	n=70 n (%)	n=29 n (%)	n=41 n (%)	
Fever duration (days)	20 (28.6)	10 (34.5)	10 (24.4)	> 0.05
Neutropenia	59 (84.3)	26 (89.6)	33 (80.5)	> 0.05
Neutrophile count	47 (67.1)	22 (75.9)	25 (61.0)	> 0.05
<500/mm3	27 (38.6)	12(41.4)	15 (36.6)	
<100/mm3				
Neutropenia duration (days)	13.0 (2.0-115.0)	16.5 (2.0-115.0)	10.0 (2.0-51.0)	> 0,05
Neutropenia duration > 14 days	29 (41.4)	17(58.6)	12 (29.3)	**< 0.05**
Antifungal prophylaxis	30 (42.9)	15 (51.7)	15 (36.6)	> 0.05
Fluconazole	18 (25.7)	8	10	
Voriconazole	9 (12.8)	5	4	
Posaconazole	3 (4.2)	2	1	
Antibiotic treatment				> 0.05
Piperacillin tasobactam	37 (52.9)	16(55.2)	21 (51.2)	
Amikacin	26 (37.1)	15 (51.7)	11 (26.8)	
Meropenem	19 (27.1)	11 (37.9)	8 (19.5)	
Vancomycin	21 (30.0)	10 (34.5)	11 (26.8)	

Table 3. Effect of a single GM positivity on IA diagnosis according to different thresholds

Samples	Total n (%)	IA n (%)	Non-IA n (%)	p	Positive predictive value
GMI> 0.5	104 (100)	41(39.4)	63 (60.6)	p>0.05	%39.4
GMI> 0.7	76 (73.1)	33(43.4)	43 (56,6)	p>0.05	%43.2
GMI> 1.0	57 (54.8)	27(47.4)	30 (52.6)	p>0.05	%47.2
GMI> 1.5	32 (30.8)	16(50.0)	16 (50.0)	p>0.05	%50.0

Table 4. The effect of two consecutive GM positivity on IA diagnosis according to different thresholds

Samples	Total n (%)	IA n (%)	Non-IA n (%)	p	Positive predictive value
GMI > 0.5	34 (48.6)	20(58.8)	14(41.2)	0.004*	%58.8
GMI > 0.7	20 (28.6)	13(65.0)	7(35.0)	0,011*	%65.0
GMI > 1.0	13 (18.6)	11(84.6)	2(15.4)	0.001*	%84.6
GMI > 1.5	4 (5.7)	4(100)	0	-	%100
Increase of >0.5 between two consecutive GM results	13 (18.6)	7(53.6)	6(46.2)	> 0.05	%53.8

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

263. Advances in Diagnosis of Progressive Coccidioidomycos: Experience in 164 Cases and 508 Controls

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Background. Antibody detection is the main method for diagnosis of coccidioidomycosis but has limitations including sensitivity and turnaround time. The MVISTA *Coccidioides* antigen enzyme immunoassay (EIA) is recommended for testing CSF in suspected *Coccidioides* meningitis. The early reports on urine and serum antigen testing evaluated small numbers of patients who were mostly immunocompromised with advanced disease.

Methods. A retrospective study, including all patients in whom *Coccidioides* antigen testing was performed between January 2013 and May 2017, was conducted at Maricopa Integrated Health System (MIHS). Sensitivity and specificity of antigen testing at MiraVista Diagnostics and antibody testing at MIHS or commercial laboratories were evaluated in 164 cases and 508 controls.

Results. The sensitivity of antigen testing was 51% and specificity was 99%. The sensitivity of antigen detection was highest if both urine and serum were tested (57%) than if only urine was tested (38%). The sensitivity of antibody testing was 84% and the specificity was 94% by immunodiffusion (ID). The sensitivity and specificity of antigen or ID antibody testing both were 94%. Sensitivity of antigen testing was 57% in proven and 58% in probable cases, ID antibody in 85% of proven and 75% of probable and antigen or ID antibody in 93% of proven and 95% of probable cases. Antigen was detected more often in disseminated (79%) than pulmonary cases (42%) as was ID antibody, 91% and 79%, respectively. Antigen testing was more sensitive in immunocompromised (76%) than non-immunocompromised patients (41%) while ID antibody was less sensitive in immunocompromised (74%) than in non-immunocompromised patients (93%). Combined antigen and ID antibody testing provided the highest sensitivity, 94% in all cases, 94% in immunocompromised and 95% in non-immunocompromised patients.

Conclusion. These findings support testing urine and serum for *Coccidioides* antigen and serum for ID antibodies for diagnosis of progressive pulmonary or disseminated coccidioidomycosis.

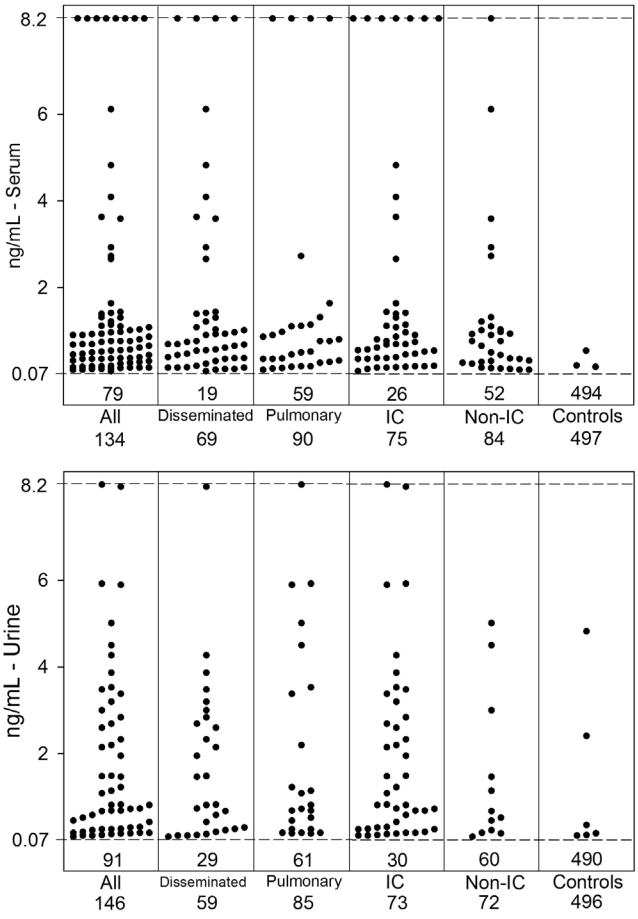

Table 1. Sensitivity and specificity in cases and controls

Test	Sensitivity	Specificity
Antigen-serum	81/159 (50.9%)[1]	494/497 (99.4%)[2]
Antigen-urine	55/145 (37.9%)	490/496 (98.8%)
Antigen-serum or urine	94/164 (57.3%)	502/508 (98.8%)
Antibody-ID	131/156 (83.9%)	456/483 (94.4%)
Antibody-CF	83/129 (64.3%)	59/61 (96.7%)[2]
Antigen or ID antibody	154/164 (93.9%)	457/487 (93.8%)
Cyto/Histo-pathology	61/119 (51.3%)	241/242 (99.6%)
Culture	59/103 (57.3%)	161/162 (99.4%)
Pathology or culture	67/131 (64.1%)	275/276 (99.6%)

[1]Positive/tested (%); negative/tested; [2]CF was performed in 61 control patients

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

264. Biofilm cells of Trichosporon asahii Show Higher Resistance Than Planktonic Cells to Various Abiotic Stresses

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