SUPPLEMENTARY MATERIAL

Multicenter Registry of Patients Receiving Systemic Mold-Active Triazoles for the Management of Invasive Fungal Infections

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Supplementary Table 1. List of investigators

Site Number	Site Name	IRB Name, IRB Approval Date, and Document ID/IRB Number
20001	The Regents of the University of California Davis	University of California Davis, 15Dec2017, 1117803-1
20002	Ochsner Clinic Foundation	Ochsner Clinic Foundation, 29Sep2016, 2016.222.A
20003	Rhode Island Hospital	Lifespan, 21Nov2016, 00000396
20004	Loyola University Medical Center	Loyola University Chicago, 24Oct2016, 209043102416
20005	Henry Ford Health System	Henry Ford Health System, 23Aug2016, 10723
20006	Indiana University Health, Inc. d/b/a Methodist Research Institute	Western Institutional Review Board (WIRB), 16Sep2016, 20161781
20007	The University of Chicago	University of Chicago BSD, 13Dec2016, 16-1381
20008	Northwestern University	Northwestern University, 20Jan2017, STU00203904
20009	Yale University	Yale, 30Jan2017, 2000020126
20010	University of Kentucky	University of Kentucky, 6Nov2016, 16-0845-P1G
20011	Regents of the University of Colorado	University of Colorado Denver, 10Jan2017, 16-1901

20014	Trustees of the University of Pennsylvania	University of Pennsylvania, 09May2017, 827208
20015	Augusta University Research Institute, Inc.	Georgia Regents University, 20Dec2016, 954051-2
20017	The University of Texas Health Science Center	Western Institutional Review Board (WIRB), 18Jan2017, 1170842
20018	Regional Infectious Diseases and Infusion, Inc.	St. Rita’s Health Partners, 5Dec2016, 9766-MA-3034
20020	St. Joseph's Hospital and Medical Center	Dignity Health, 22Mar2017, PHXA-16-0190-80-18
20021	The University of Arizona	Western Institutional Review Board (WIRB), 07Feb2017, 1171916
20022	Roswell Park Cancer Institute	Roswell Park, 28Feb2017, STUDY00000211 / P 34916
20023	The Regents of the University of Minnesota	University of Minnesota, 09Jan2016, 1611M00462
20024	University Hospitals of Cleveland Medical Center	University Hospitals Cleveland Medical Center, 04Jan2017, 12-16-31
20025	Wake Forest University Health Sciences	Wake Forest University, 09Jan2017, IRB00041578
20027	University of Nebraska Medical Center	University of Nebraska Medical Center, 13Apr2017, 200-17-EP
20028	University of Nebraska Medical Center	University of Nebraska Medical Center, 27Feb2017, 085-17-EP
20029	Wayne State University	Wayne State University, 04Apr2017, 016517MP2E
20030	Duke University	Duke Medicine, 21Mar2017, Pro00077960
20031	Virginia Commonwealth University	WIRB, 07Jun2017, 1172018
20032	Regents of the University of Michigan	University of Michigan, 11Jul2017, HUM00125272

20034	The Regents of the University of New Mexico	UNM Health Sciences Center, 22Jan2018, 17-458
20035	Emory University	Emory University, 12Jun2017, IRB00093091
20037	Memorial Sloan-Kettering Cancer Center	Memorial Sloan Kettering Cancer Center, 28Sep2017, 17-488
20038	The University of Alabama at Birmingham	WIRB, 15Jun2017, 1175663
20040	Joseph M. Still Research Foundation, Inc.	WIRB, 28Jun2017, 1176722
20041	St Jude Children's Research Hospital, Inc	St. Jude Children's Research Hospital, 16Feb2017, Pro00007367
20042	Washington University	Washington University in St. Louis, 21Sep2017, 201703167
20043	Mayo Clinic Arizona	Mayo Clinic, 13Jun2017, 17-000941
20044	University of Pittsburgh Medical Center	WIRB, 16May2017, 1174859
20046	The Board of Trustees of the Leland Stanford Junior University	Stanford University, 26May2017, 4947
20048	Mayo Clinic	Mayo Clinic, 10Apr2017, 17-001351
20049	Beth Israel Deaconess Medical Center, Inc	Beth Israel Deaconess Medical Center, 26Jul2017, 2017P000209
20050	Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center	WIRB, 09Oct2017, 1178359
20051	Hackensack University Medical Center	WIRB, 22Aug2017, 1177142
20052	Rutgers, The State University of New Jersey	Rutgers/Robert Wood Johnson University Hospital Somerset, 18Apr2017, 17-03
20053	University of Kansas Medical Center Research Institute, Inc	The University of Kansas Medical Center, 19Jun2017, IRB00000161
20054	University of Washington	WIRB, 31Jul2017, 1177035

20055	The Brigham & Women's Hospital, Inc.	Partners Healthcare, 30Nov2017, 2017P002560/PHS
20057	Good Samaritan Hospital Corvallis	Samaritan Health Services, 26Oct2017, 17-074
20058	Ann & Robert H Lurie Children's Hospital of Chicago d/b/a Lurie Children's	Ann & Robert H Lurie Children's Hospital of Chicago, 19Jan2018, 2018-1485
20059	Olive View – UCLA Education and Research Institute	Olive View – UCLA Education and Research Institute, 23Jan2018, 1180092-1
20060	Oregon Health & Science University	Oregon Health & Science University, 9Jan2018, STUDY00017916
20061	The Children's Mercy Hospital	WIRB, 12Apr2018, 1180143
20062	The Cooper Health System	Cooper University Hospital, 20Sep2018, 17-192EX9
20063	West Virginia University Research Corporation	West Virginia University, 15Feb2018, 1712902340
20064	Joan and Sanford I. Weill Medical College	Weil Cornell Medicine, 26Jul2018, 1801018921
20065	The Board of Trustees of the University of Illinois	UIC, 20Apr2018, 2018-0031
20066	Drexel University	WIRB, 25Feb2018, 1183450
20067	The Administrator of the Tulane Education Fund d/b/a Tulane University	Tulane University, 03Jul2018, 2017-886
20071	Norton Cancer Institute	WIRB, 11Jun2018, 1187166
20072	Springfield Clinic, LLP	WIRB-Copernicus Group, 12Feb2018,1242228
20073	Swedish Health Services	WIRB, 31May2018, 1186497
20074	The Regents of the University of California	UCLA, 06Jun2018, 18-000490

Supplementary Table 2. Investigator's assessment of response; definitions of clinical, mycological, radiological and prophylactic response

Investigator's assessment of clinical response	
Success	Resolution of some or all attributable signs and symptoms.
No success	No resolution of any attributable signs and symptoms and/or worsening.
No attributable signs and symptoms	
Results not available/patient unevaluable	
Investigator's assessment of mycological response	
Eradication	Two consecutive negative cultures on two separate days from all previously infected normally sterile sites or histologically documented absence of the infecting fungal species from the primary site.
Presumed eradication	Resolution of attributable clinical signs and symptoms of infection plus contraindication to culture of biopsy of previously infected normally sterile sites (only for non-bloodstream infections).
Persistence	Positive culture or histological signs from a normally sterile site.
Presumed persistence	Missing culture or biopsy in the absence of resolution of all attributable signs and symptoms of infection or contraindication to culture of biopsy in the absence of resolution of all attributable signs and symptoms of infection.

Indeterminate	All other situations, e.g., patient lost to follow up.
Results not available/patient unevaluable	

Investigator's assessment of radiological response
≥ 90% improvement
≥ 50% to < 90% improvement
≥ 25% to < 50% improvement
< 25% improvement
No signs on radiological images
Results not available/patient unevaluable

Investigator's assessment of prophylactic response
No breakthrough infection
Breakthrough infection

Supplementary Table 3. Infections other than IFIs (FAS)

	Isavuconazole (*n* = 510)	**Posaconazole (*n* = 540)**	**Voriconazole (*n* = 491)**	**Multiple/ sequenced therapies (*n* = 452)**	**Total (*N* = 1993)**
Patients with ≥1 non-fungal infection, *n* (%)					
No	228 (44.7)	242 (44.8)	189 (38.5)	139 (30.8)	798 (40.0)
Yes	282 (55.3)	298 (55.2)	302 (61.5)	313 (69.2)	1195 (60.0)
Infection type*, n (%)*	281	298	302	313	1194
Bacterial	224 (79.7)	250 (83.9)	258 (85.4)	269 (85.9)	1001 (83.8)
Viral	99 (35.2)	114 (38.3)	93 (30.8)	121 (38.7)	427 (35.8)
Mucosal yeast (non-invasive)	4 (1.4)	3 (1.0)	6 (2.0)	3 (1.0)	16 (1.3)
Parasitic	0	1 (0.3)	1 (0.3)	2 (0.6)	4 (0.3)
Other infection	9 (3.2)	10 (3.4)	12 (4.0)	16 (5.1)	47 (3.9)
Missing data	1	0	0	0	1
Antibiotic agents received for bacterial infection , *n*	224	250	255	267	996
None	8 (3.6)	21 (8.4)	20 (7.8)	23 (8.6)	72 (7.2)
One	133 (59.4)	161 (64.4)	142 (55.7)	167 (62.5)	603 (60.5)
Two	80 (35.7)	87 (34.8)	85 (33.3)	107 (40.1)	359 (36.0)

≥Three	52 (23.2)	59 (23.6)	58 (22.7)	66 (24.7)	235 (23.6)
Missing data	0	0	3	2	5

Data shown are n (%), unless otherwise indicated. Table shows actual number of patients with an assessment (n). Only infections that started on/after index/enrollment are presented. Percentages are based on the number of patients in the FAS with ≥1 non-fungal infection or *n* for that parameter. Patients were counted in multplie sub-categories, but only once per sub-category. FAS, full analysis set.

Supplementary Table 4. Investigator's assessment of patient responses to mold-active triazole therapies at study end by (a) *Aspergillus fumigatus*, (b) *Aspergillus non-fumigatus*, (c) *Candida* and (d) *Aspergillus*/*Candida* species (FAS)

(a) *Aspergillus fumigatus* (FAS)

	Isavuconazole (*n* = 44)	**Posaconazole (*n* = 18)**	**Voriconazole (*n* = 37)**	**Multiple/ sequenced therapies (*n* = 32)**	**Total (*N* = 131)**
Clinical response assessment, *n*	42	14	36	28	120
Resolution of all attributable signs/symptoms	18 (42.9)	10 (71.4)	10 (27.8)	9 (32.1)	47 (39.2)
Resolution of some attributable signs/symptoms	14 (33.3)	3 (21.4)	13 (36.1)	11 (39.3)	41 (34.2)
No resolution of any attributable signs/symptoms	8 (19.0)	1 (7.1)	10 (27.8)	5 (17.9)	24 (20.0)
No attributable signs/symptoms	1 (2.4)	0	2 (5.6)	0	3 (2.5)
Results not available/patient unevaluable	1 (2.4)	0	1 (2.8)	3 (10.7)	5 (4.2)
Mycological response assessment, *n*	37	14	33	26	110
Eradication	12 (32.4)	3 (21.4)	6 (18.2)	4 (15.4)	25 (22.7)
Presumed eradication	8 (21.6)	4 (28.6)	15 (45.5)	8 (30.8)	35 (31.8)
Persistence	4 (10.8)	1 (7.1)	3 (9.1)	4 (15.4)	12 (10.9)
Presumed persistence	2 (5.4)	2 (14.3)	2 (6.1)	3 (11.5)	9 (8.2)

Indeterminate	2 (5.4)	0	0	0	2 (1.8)
Results not available/patient unevaluable	9 (24.3)	4 (28.6)	7 (21.2)	7 (26.9)	27 (24.5)
Radiological response assessment, *n*	36	11	31	24	102
≥ 90% improvement	11 (30.6)	3 (27.3)	4 (12.9)	9 (37.5)	27 (26.5)
≥ 50% to < 90% improvement	4 (11.1)	2 (18.2)	9 (29.0)	7 (29.2)	22 (21.6)
≥ 25% to < 50% improvement	6 (16.7)	1 (9.1)	1 (3.2)	0	8 (7.8)
< 25% improvement	9 (25.0)	2 (18.2)	8 (25.8)	7 (29.2)	26 (25.5)
No signs on radiological images	1 (2.8)	1 (9.1)	3 (9.7)	0	5 (4.9)
Results not available/patient unevaluable	5 (13.9)	2 (18.2)	6 (19.4)	1 (4.2)	14 (13.7)

(b) *Aspergillus non-fumigatus* (FAS)

	Isavuconazole (*n* = 9)	**Posaconazole (*n* = 3)**	**Voriconazole (*n* = 16)**	**Multiple/ sequenced therapies (*n* = 12)**	**Total (*N* = 40)**
Clinical response assessment, *n*	9	3	16	12	40
Resolution of all attributable signs/symptoms	6 (66.7)	1 (33.3)	7 (43.8)	6 (50.0)	20 (50.0)
Resolution of some attributable signs/symptoms	1 (11.1)	0	4 (25.0)	3 (25.0)	8 (20.0)
No resolution of any attributable signs/symptoms	2 (22.2)	1 (33.3)	3 (18.8)	1 (8.3)	7 (17.5)

No attributable signs/symptoms	0	1 (33.3)	1 (6.3)	1 (8.3)	3 (7.5)
Results not available/patient unevaluable	0	0	1 (6.3)	1 (8.3)	2 (5.0)
Mycological response assessment, *n*	8	2	11	10	31
Eradication	2 (25.0)	1 (50.0)	4 (36.4)	1 (10.0)	8 (25.8)
Presumed eradication	4 (50.0)	0	4 (36.4)	3 (30.0)	11 (35.5)
Persistence	1 (12.5)	0	2 (18.2)	2 (20.0)	5 (16.1)
Presumed persistence	0	1 (50.0)	0	2 (20.0)	3 (9.7%
Indeterminate	0	0	0	0	0
Results not available/patient unevaluable	1 (12.5)	0	1 (9.1)	2 (20.0)	4 (12.9)
Radiological response assessment, *n*	6	3	10	12	31
≥ 90% improvement	4 (66.7)	0	4 (40.0)	4 (33.3)	12 (38.7)
≥ 50% to < 90% improvement	1 (16.7)	1 (33.3)	1 (10.0)	1 (8.3)	4 (12.9)
≥ 25% to < 50% improvement	1 (16.7)	0	0	1 (8.3)	2 (6.5)
< 25% improvement	0	1 (33.3)	1 (10.0)	2 (16.7)	4 (12.9)
No signs on radiological images	0	1 (33.3)	3 (30.0)	1 (8.3)	5 (16.1)
Results not available/patient unevaluable	0	0	1 (10.0)	3 (25.0)	4 (12.9)

(c) *Candida* (FAS)

	Isavuconazole (*n* = 27)	Posaconazole (*n* = 20)	Voriconazole (*n* = 31)	Multiple/ sequenced therapies (*n* = 31)	Total (*N* = 109)
Clinical response assessment, *n*	20	13	27	25	85
Resolution of all attributable signs/symptoms	10 (50.0)	7 (53.8)	10 (37.0)	10 (40.0)	37 (43.5)
Resolution of some attributable signs/symptoms	3 (15.0)	1 (7.7)	12 (44.4)	7 (28.0)	23 (27.1)
No resolution of any attributable signs/symptoms	4 (20.0)	2 (15.4)	3 (11.1)	3 (12.0)	12 (14.1)
No attributable signs/symptoms	3 (15.0)	3 (23.1)	1 (3.7)	5 (20.0)	12 (14.1)
Results not available/patient unevaluable	0	0	1 (3.7)	0	1 (1.2)
Mycological response assessment, *n*	17	9	25	23	74
Eradication	4 (23.5)	3 (33.3)	5 (20.0)	8 (34.8)	20 (27.0)
Presumed eradication	6 (35.3)	4 (44.4)	8 (32.0)	5 (21.7)	23 (31.1)
Persistence	1 (5.9)	0	2 (8.0)	1 (4.3)	4 (5.4)
Presumed persistence	2 (11.8)	1 (11.1)	4 (16.0)	1 (4.3)	8 (10.8)
Indeterminate	0	0	0	0	0
Results not available/patient unevaluable	4 (23.5)	1 (11.1)	6 (24.0)	8 (34.8)	19 (25.7)
Radiological response assessment, *n*	14	8	19	19	60
≥ 90% improvement	4 (28.6)	3 (37.5)	1 (5.3)	5 (26.3)	13 (21.7)
≥ 50% to < 90% improvement	2 (14.3)	0	5 (26.3)	3 (15.8)	10 (16.7)

≥ 25% to < 50% improvement	0	0	4 (21.1)	2 (10.5)	6 (10.0)
< 25% improvement	4 (28.6)	3 (37.5)	3 (15.8)	4 (21.1)	14 (23.3)
No signs on radiological images	1 (7.1)	1 (12.5)	3 (15.8)	2 (10.5)	7 (11.7)
Results not available/patient unevaluable	3 (21.4)	1 (12.5)	3 (15.8)	3 (15.8)	10 (16.7)

(d) *Aspergillus*/*Candida* (FAS)

	Isavuconazole (*n* = 4)	**Posaconazole (*n* = 1)**	**Voriconazole (*n* = 10)**	**Multiple/ sequenced therapies (*n* = 9)**	**Total (*N* = 24)**
Clinical response assessment, *n*	4	1	9	6	20
Resolution of all attributable signs/symptoms	0	0	4 (44.4)	2 (33.3)	6 (30.0)
Resolution of some attributable signs/symptoms	2 (50.0)	0	2 (22.2)	1 (16.7)	5 (25.0)
No resolution of any attributable signs/symptoms	2 (50.0)	1 (100)	2 (22.2)	3 (50.0)	8 (40.0)
No attributable signs/symptoms	0	0	1 (11.1)	0	1 (5.0)
Results not available/patient unevaluable	0	0	0	0	0
Mycological response assessment, *n*	4	1	9	6	20
Eradication	0	0	0	0	0
Presumed eradication	1 (25.0)	0	5 (55.6)	2 (33.3)	8 (40.0)

Persistence	1 (25.0)	0	2 (22.2)	2 (33.3)	5 (25.0)
Presumed persistence	1 (25.0)	0	0	0	1 (5.0)
Indeterminate	0	1 (100.0)	0	0	1 (5.0)
Results not available/patient unevaluable	1 (25.0)	0	2 (22.2)	2 (33.3)	5 (25.0)
Radiological response assessment, *n*	4	1	9	6	20
≥ 90% improvement	0	0	2 (22.2)	1 (16.7)	3 (15.0)
≥ 50% to < 90% improvement	0	0	2 (22.2)	1 (16.7)	3 (15.0)
≥ 25% to < 50% improvement	1 (25.0)	0	0	0	1 (5.0)
< 25% improvement	1 (25.0)	1 (100.0)	4 (44.4)	2 (33.3)	8 (40.0)
No signs on radiological images	1 (25.0)	0	1 (11.1)	0	2 (10.0)
Results not available/patient unevaluable	1 (25.0)	0	0	2 (33.3)	3 (15.0)

Data shown are *n* (%), unless otherwise indicated. Table shows actual number of patients with an assessment (*n*). Since treatment groups were not randomized and assessment results were not adjusted, any perceived differences between treatment groups could be due to other confounders and not treatment effects. Note that patients who received prophylaxis may have transitioned to treatment during the course of the study.