Session: P-52. Medical Mycology

Background. *Coccidiodes* can cause severe or disseminated disease in a minority of patients, but coccidioidomycosis resulting in septic shock is rare. We describe a case of fulminant *C. immitis* infection whose diagnosis was delayed by a markedly elevated serum procalcitonin. We review the published literature of coccidioidomycosis complicated by septic shock.

Case Report

A 74-year-old man presented with cough, fever, and three weeks of progressive decline. He was febrile at 39.1°C, tachycardic, and tachypneic with crackles in the left lung; an initial procalcitonin (PCT) was 1.73 ng/mL. Broad-spectrum antibacterials were administered. His condition worsened on the 2nd day, requiring vasopressors, endotracheal intubation, and hemodialysis. PCT rose to > 400 ng/mL. Respiratory cultures grew fungi consistent with *Coccidioides*. Liposomal amphotericin B (AmB) was initiated. His shock progressed, and he died on hospital day 6.

Methods. We performed a MEDLINE and Google Scholar search using the terms "coccidioidomycosis", "*Coccidioides*", "sepsis", and "septic shock". Indexed articles and conference abstracts were included if the patient had confirmed coccidioidomycosis and vasopressor-dependent shock with no alternate cause. Data on age, sex, ethnicity, comorbidities, antifungal therapy, and outcome were tabulated.

Results. We identified 18 reports describing 31 patients with vasopressor-dependent septic shock due to *Coccidioides* since 1993 (table 1). Of these cases, 23/31 (74.2%) died. Of those with reported race/ethnicity, 20/23 were Latino, 4/23 of African descent, 5/23 Asian-Pacific Islander, and 3/23 white. 27/31 (87.1%) were male. All but two were adults (median age 51.5 years). 21/31 (67.7%) had reported comorbid conditions. 20/31 patients (64.5%) and all of the survivors received AmB-based therapy.

Table 1 - Published cases of coccidioidomycosis complicated by septic shock. All ages are in years. Abbreviations: HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome; CAD = coronary artery disease; COPD = chronic obstructive pulmonary disease; ESRD = End stage renal disease; SLE = Systemic Lupus Erythematosus; APC = recombinant human activated protein C (drotrecogin alfa).

Age	Gender	Ethnicity	Comorbid Conditions	Antifungal Therapy	Outcome	Reference
70	M	Unknown	None reported	Amphotericin B	Died	1993 - Lopez Am J Med
65	M	Unknown	COPD	None	Died	1993 - Lopez Am J Med
61	M	Latino	None reported	Amphotericin B	Died	1998 - Arsura CCM
53	M	Latino	Diabetes mellitus	Amphotericin B	Died	1998 - Arsura CCM
38	M	Latino	Alcoholic liver disease	Amphotericin B	Died	1998 - Arsura CCM
54	M	Filipino	None reported	Amphotericin B	Died	1998 - Arsura CCM
40	F	Black	Sarcoidosis, sickle cell trait	Amphotericin B	Died	1998 - Arsura CCM
52	M	Latino	None reported	Amphotericin B	Died	1998 - Arsura CCM
64	F	Filipina	Diabetes mellitus	Amphotericin B	Died	1998 - Arsura CCM
82	M	Latino	None reported	Amphotericin B	Died	1998 - Arsura CCM
47	M	Asian	Kidney transplantation	Amphotericin B	Died	2000 - Cha Respirology
23	M	Black	None reported	Amphotericin B	Survived	2002 - Shibli CCM
73	M	Unknown	Constrictive pericarditis	Amphotericin B, fluconazole	Survived	2003 - Visbal Ann Thorac Surg
78	M	Unknown	Constrictive pericarditis, CAD, non-Hodgkins lymphoma	Fluconazole	Died	2003 - Visbal Ann Thorac Surg
59	M	White	Diabetes mellitus, CAD, COPD	Amphotericin B, APC	Survived	2004 - Crum CID
76	M	White	None reported	Amphotericin B, APC	Survived	2004 - Crum CID
36	M	White	HIV/AIDS	None	Died	2007 - Rempe Heart Lung
61	M	"Middle Eastern"	None reported	None	Died	2007 - Rempe Heart Lung
46	F	Unknown	HIV/AIDS	None	Died	2007 - Rempe Heart Lung
25	M	Latino	HIV/AIDS	Amphotericin B, voriconazole	Died	2010 - Desai J La State Med Soc
34	M	Latino	HIV/AIDS	Voriconazole, caspofungin	Died	2010 - Desai J La State Med Soc
23	M	Latino	Kidney, liver transplantation	Amphotericin B, caspofungin	Survived	2011 - Blodget Transplant ID
13	M	Unknown	Hemophagocytic lymphohistiocytosis	None	Died	2014 - Ramsi BMJ Case Rep
3	M	Sub-Saharan African	None reported	None	Died	2014 – El Dib J Trop Peds
54	M	Latino	Cirrhosis, splenectomy	Amphotericin B, fluconazole	Died	2018 – Sinha ATS Poster
70	M	Filipino	None reported	Fluconazole, caspofungin	Died	2018 – McCool CCM
38	M	Latino	Asthma	Amphotericin B, fluconazole, voriconazole	Survived	2019 – Elsayeb ATS Poster
65	F	Unknown	SLE, ESRD	Micafungin	Died	2019 – Ramaj ATS Poster
61	M	Black	Diabetes mellitus, hypertension, distant smoking history	Fluconazole, amphotericin B	Survived	2019 – Chang, Am Journ Med
69	M	Latino	Hypertension	Fluconazole	Died	2020 – Guleti ATS Poster
31	M	Asian	Henoch Schoelein Purpura	Amphotericin B, fluconazole, micafungin, posaconazole	Survived	2020 – Tandon ATS Poster

Conclusion. Coccidioidomycosis is an elusive diagnosis in critically-ill patients due to its rarity, the lack of rapid diagnostics, and its propensity to mimic other infections. Mortality is high, potentially due to delays in diagnosis. The marked elevation in PCT has not been previously noted in coccidioidomycosis and may further confound diagnosis. Improved diagnostics and the rapid institution of AmB may reduce mortality in patients with coccidioidal sepsis.

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

1180. Seroincidence and Risk of Coccidioidomycosis Infection Among Active Duty Personnel Stationed at Naval Air Station Lemoore in the San Joaquin Valley of California

Graham C. Ellis, MD, MSPH[1]; Charlotte Lanteri, PhD[2]; Hsing-Chuan Hsieh, MPH[3]; Paul Graf, PhD[4]; TERREL SANDERS, N/A, MD[5]; Ryan C. Maves, MD[6]; Robert Deiss, MD[7]; [1]US Navy, Virginia Beach, Virginia; [2]Infectious Disease Clinical Research Program, Uniformed Services University of the Health Sciences, Boyds, Maryland; [3]Infectious Disease Clinical Research Program, Dept Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences and The Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD; [4]Naval Health Research Center, San Diego, CA; [5]Naval Medical Research Unit Three Ghana Detachment, MARION, South Carolina [6]Naval Medical Center San Diego, San Diego, CA and Infectious Disease Clinical Research Program, Bethesda, MD, San DIego, California; [7]University of California, San Diego, San Diego, California

Session: P-52. Medical Mycology

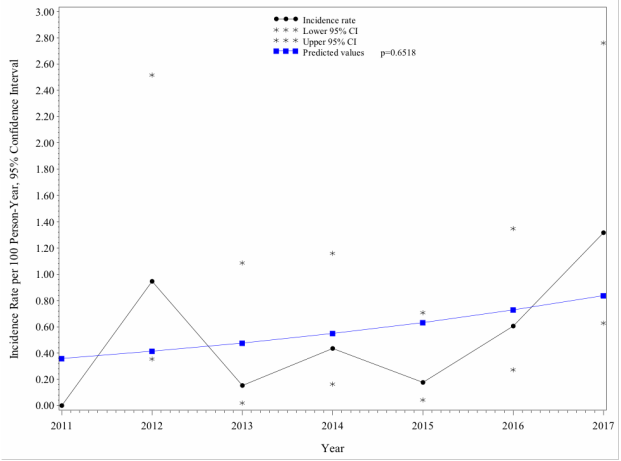
Background. Coccidioidomycosis ranges clinically from a self-limited respiratory illness to multi-organ dissemination. Based largely on skin testing from the 1940s, 60% of infections are thought to be asymptomatic. Limited *Coccidioides* seroincidence data support our understanding of the epidemiology and pathogenicity of this disease.

Methods. This retrospective cohort study tested 2000 U.S. military personnel for *Coccidioides* exposure after transfer to an endemic region of California between 2011 and 2017. The presence of IgG and IgM anti-*Coccidioides* antibodies were tested on pre- and post-transfer serum samples from the DoD Serum Repository to establish rates of seroconversion. Medical histories and participant demographics including race/ethnicity and military occupational specialty codes were collected from the electronic medical record and participants were stratified by a history of *Coccidioides*-specific or general respiratory illness based on ICD9/ICD10 coding.

Results. Thirty of 2000 participants tested newly positive for anti-*Coccidioides* antibodies after 12 months on station. Seroconversion incidence varied from 0.0-1.32 annually and overall 0.5 per 100 person years. Seroconverters were more frequently diagnosed with coccidioidomycosis or pneumonia than non-converters (p=0.027). No statistically significant association between demographic characteristics and seroconversion or disease was observed. Clinical disease was detected in only three seroconverters (10%).

Incidence Rate of Coccidioidomycosis Infection among Active Duty Stationed at NAS Lemoore, 2011-2017

Figure 1. Incidence Rate of Coccidioidomycosis Infection among Active Duty Stationed at NAS Lemoore, 2011-2017



Seroconversion Status by Cocci/Pneumonia Diagnosis Status

Table 1. Seroconversion Status by Cocci/Pneumonia Diagnosis Status

	ICD 9/10 Diagnosis				
	No	Pneumonia		Cocci & Pneumonia	
Seroconversion period		Before stationed	After stationed	Before and after stationed	After stationed	Total
No, or unknown	1929(97.92)	21(1.07)	18(0.91)	1(0.05)	1(0.05)	**1970(98.50)**
Previous exposure	6(100.00)	0	0	0	0	**6(0.30)**
Yes, or possible	21(87.50)	0	1(4.17)	0	2(8.33)	**24(1.20)**
Total	**1956(97.80)**	**21(1.05)**	**19(0.95)**	**1(0.05)**	**3(0.15)**	**2000**

Values presented as n (%)

Conclusion. In this study *Coccidioides* seroincidence was similar to that observed by others, adding longitudinal evidence to epidemiologic assumptions about coccidioidomycosis. A trend toward increasing incidence over the course of the study is consistent with the classification of coccidioidomycosis as an emerging infectious disease. While transmission is typically related to exposure, we did not detect a difference based on military occupational specialty codes. Overall, rates of diagnosed disease in our cohort were lower than the historically-assumed 40% symptomatic rate, although this conclusion is limited by the retrospective nature of the study. Further clinical and epidemiologic coccidioidomycosis research, particularly in broader endemic regions, is warranted.

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

1181. Spectrum and Risk Factors of Early Onset versus Late Onset Neonatal Candidemia from Pakistan.

Salima Rattani, M.B.BS[1]; Kauser Jabeen, MBBS, FCPS (Microbiology), MSc (Medical Mycology)[2]; Joveria Farooqi, FCPS Microbiology[2]; Ali Shabbir Hussain, FCPS (Neonatal Paediatrics),FCPS (Paediatrics), MBBS[3]; [1]AGAKHAN UNIVERSITY HOSPITAL, Karachi, Sindh, Pakistan; [2]Agakhan University Hospital, Karachi, Sindh, Pakistan; [3]Aga Khan University Hospital, Karachi, Sindh, Pakistan

Session: P-52. Medical Mycology

Background. Candidemia leads to high morbidity and mortality especially in premature neonates from developing countries. We studied the spectrum and risk factors of candidemia in neonates with early onset disease (EOD) or late onset disease (LOD) which has not been extensively investigated in Pakistan. We also determined whether vaginal delivery is associated with candidemia in neonates with EOD.

Methods. A case control study was conducted at the Aga Khan University, Karachi, Pakistan. Cases (neonates with EOD) and controls (neonates with LOD) were identified from laboratory database for year 2014-2018, and for 2019 data was collected prospectively from laboratory during routine reporting of cultures at which