Since 2019, we identified six patients with C. auris positive cultures, including five clinical cases and one colonization case. Five patients were international and one was local with no history of international travel or stay in a care facility. Interestingly, all six were known to be colonized with extended-spectrum beta-lactamase (ESBL) E. coli. **Conclusion:** We have a very low prevalence of C. auris among CDC-defined high-risk patients. A review of historic C. auris cases indicated an association with colonization by other multidrug-resistant organisms, specifically ESBL E. coli, which will inform future screening protocols at our institution.

Disclosure: Roy Chemaly: Contracted Research paid for my institution: Merck, Karius, AiCuris, Ansun Pharmaceuticals, Takeda, Genentech, Oxford Immunotec, and Eurofins-Viracor; Honorarium/Ad Board/Consultant: ADMA Biologics, Janssen, Merck/MSD, Partner Therapeutics, Takeda, Shinogi, AiCuris, Roche/Genentech, Astellas, Tether, Oxford Immunotec, Karius, Moderna, and Ansun Pharmaceuticals; Stock Options: Xenex

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s91–s92
doi:10.1017/ash.2024.232

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Emerging Pathogens

First Detected Transmission of C. auris within a Minnesota Healthcare Facility Following Exposure in the Emergency Department

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Background: Candida auris reporting and submission of confirmed or possible isolates has been mandatory in Minnesota since August 2019. On August 9, 2023, the Minnesota Department of Health (MDH) was notified of a C. auris isolate in hip tissue from a patient in acute care hospital A (ACH-A). Only 9 cases of C. auris were detected prior to August 2023, in Minnesota, and all from patients with a history of international healthcare or healthcare in endemic C. auris locations of the United States. **Methods:** The MDH Public Health Laboratory (MDH-PHL) confirmed identification of C. auris from the ACH-A isolate by MALDI-TOF. MDH partnered with ACH-A to review medical records, assess infection prevention and control (IPC) practices, conduct contact tracing, and identify patients for colonization screening. Screening was performed on all patients that overlapped with the index case (case A) and were admitted to a facility in the same healthcare system as ACH-A. Facilities accepting discharged patients who overlapped with case A were contacted for colonization screening. Overlapping patients, no longer admitted to a healthcare facility, were sent a notification letter, and offered outpatient screening. Composite axilla/groin swabs were screened for C. auris using real-time PCR at MDH-PHL, who also performed whole genome sequencing (WGS) and single nucleotide polymorphism (SNP) analysis. **Results:** Case A's medical record showed only Minnesota healthcare exposures, a surgical procedure in June 2023 and indicated the case overlapped with a previous case (case B) from July 2023, who had recent international healthcare. The two cases were hospitalized at ACH-B July 12-18, on different care floors without evident links to shared services. However, the cases were in adjacent rooms in ACH-B Emergency Department (ED) on July 3 for 5 hours, when C. auris status of case B was unknown. WGS indicated both isolates were within clade I (South Asian) and separated by 2 SNPs, suggesting relatedness. Extensive colonization screening occurred among 109 potentially exposed patients, including 18 patients from the ED. No additional C. auris was detected. **Conclusions:** This case represents the first detected transmission of C. auris within a Minnesota healthcare facility. The role of C. auris transmission within the ED is not well understood. Medical record review in combination with WGS analysis suggests potential transmission within the ED. Clinicians should be aware of the risks for C. auris transmission in the ED and follow all IPC measures to prevent transmission of this emerging fungal pathogen.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s92
doi:10.1017/ash.2024.233

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Emerging Pathogens

Risk Factors and Outcomes of Candida auris in Southeast Michigan

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Background: Candida auris is an emerging multidrug resistant fungus that presents a serious global health threat and causes severe infections with a high mortality rate in hospitalized patients with significant underlying comorbidities. We describe the risk factors and clinical outcomes associated with C. auris in Southeast Michigan. **Methods:** This is a retrospective case series of culture-positive C. auris patients who had contact with our healthcare facility in Detroit from 2021 to 2023. We evaluated demographics, comorbidities, risk factors, and outcomes. A comparative analysis of colonized and infected patients was performed. **Results:** Forty-eight (81%) colonized and 11 (19%) infected patients were included (Table); 70% were male with median age of 66 years. All variables were comparable between the two groups except chronic kidney disease, which was significantly more prevalent among colonized patients (40% vs 0, p=0.011). All patients had prior exposure to acute care hospital (ACH), 37% to long-term acute care hospital, and 42% to skilled nursing facility within 1 year of diagnosis. Chronic wounds, prior broad-spectrum antibiotic use, and indwelling devices were prevalent in both groups; more than half required mechanical ventilation in the last month, and one third had tracheostomy at the time of C. auris detection. Almost 60% had a prior history of drug-resistant organisms, including multi-drug resistant gram negative (37%) and carbapenem-resistant (20%) organisms. Blood (82%) and wound (18%) were sources of invasive candidiasis. More than half (61%) of the testing was performed at ACH. Nine patients (82%) with invasive disease

Table: Clinical characteristics, risk factors and outcome of *Candida auris*.

	Total, N=59	Colonization, N=48	Infection, N=11	*P-value*
Median age (interquartile range), years	66 (48-72)	66 (50.3-73)	58 (35-69)	0.95
Male, n (%)	41 (70)	32 (67)	9 (82)	0.325
Comorbidities, n (%)				
Diabetes mellitus	22 (37)	17 (35)	5 (45)	0.535
Chronic kidney disease	19 (32)	19 (40)	0	**0.011**
Chronic obstructive pulmonary disease	10 (17)	10 (21)	0	0.097
Coronary artery disease	9 (15)	7 (15)	2 (18)	0.765
Cirrhosis/Liver disease	5 (9)	3 (6)	2 (18)	0.200
Intravenous drug use	2 (3)	1 (2)	1 (9)	0.247
Active solid malignancy	6 (10)	4 (8)	2 (18)	0.330
Active hematological malignancy	4 (7)	3 (6)	1 (9)	0.735
Organ transplant within 1 year	2 (3)	2 (4)	0	0.491
Immunocompromised	10 (17)	7 (15)	3 (27)	0.312
Risk factors, n (%)				
Healthcare exposure within 1 year	59 (100)	48 (100)	11 (100)	-
Acute care hospital	59 (100)	48 (100)	11 (100)	-
Long-term acute care hospital	22 (37)	18 (38)	4 (36)	0.944
Skilled nursing facility	25 (42)	18 (38)	7 (64)	0.114
Inpatient rehabilitation	7 (12)	5 (10)	2 (18)	0.473
Intensive care unit within 90 days	43 (73)	34 (71)	9 (82)	0.460
Candida colonization in the past year	28 (47)	22 (46)	6 (55)	0.655
C. auris	3 (5)	1 (2)	2 (18)	0.028
Drug-resistant organisms within 1 year	35 (59)	29 (60)	6 (55)	0.721
Multi-drug resistant gram-negative organism	22 (37)	16 (33)	6 (54)	0.189
Carbapenem-resistant organism	12 (20)	10 (21)	2 (18)	0.844
Methicillin-resistant *S. aureus*	15 (25)	12 (25)	3 (36)	0.876
Vancomycin-resistant *Enterococcus*	9 (15)	7 (15)	2 (18)	0.765
Broad-spectrum antibiotics within 90 days	56 (95)	45 (94)	11 (100)	0.395

Azole exposure within 90 days	11 (19)	10 (21)	1 (9)	0.367
Chronic wounds	48 (81)	38 (79)	10 (91)	0.367
Indwelling devices	52 (88)	44 (92)	8 (73)	0.080
Vascular access*	35 (59)	30 (63)	5 (45)	
Percutaneous endoscopic gastrostomy	25 (42)	22 (46)	3 (36)	
Indwelling urinary catheter	29 (49)	26 (54)	3 (36)	
Other	16 (27)	14 (29)	2 (18)	
Tracheostomy within 30 days	22 (37)	18 (38)	4 (36)	0.944
Mechanical ventilation within 30 days	34 (58)	29 (60)	5 (45)	0.365
Abdominal surgery within 30 days	8 (14)	7 (15)	1 (9)	0.631
Gastrointestinal tract leak/perforation	8 (14)	6 (13)	2 (18)	0.620
***C. auris* characterization, n (%)**				
Specimen source				
Axilla/groin	41 (70)	41 (85)	0	
Blood	9 (15)	0	9 (82)	
Wound	4 (7)	2 (4)	2 (18)	
Respiratory	4 (7)	4 (8)	0	
Urine	1 (2)	1 (2)	0	
Testing Location				0.071
Acute care hospital	36 (61)	25 (52)	11 (100)	
Long-term acute care	14 (24)	14 (29)	0	
Skilled nursing facility	4 (7)	4 (8)	0	
Susceptibility available	6 (10)	1 (2)	5 (45)	
Antifungal treatment	11 (19)	2 (4)	9 (82)	<0.001
Echinocandins	10 (17)	2 (100)	8 (88)	
Azoles	1 (2)	0	1 (11)	
Treatment duration				0.187
1 week	1 (2)	1 (2)	0	
2 weeks	7 (12)	1 (2)	6 (55)	
>2 weeks	3 (5)	0	3 (27)	
30-day mortality, n (%)	10 (17)	8 (17)	2 (18)	0.904

*Central venous catheter, midline, peripherally inserted central catheter

were treated with echinocandins (88%); among the colonized, two (4%) were treated with echinocandins but had persistent colonization. Thirty-day mortality was not significantly different among the two groups and was nearly 20%. **Conclusions:** In this large cohort study, a history of healthcare exposure, drug-resistant organisms, use of broad-spectrum antibiotics, indwelling devices, and chronic wounds were common risk factors among C. auris patients. Limiting the use of broad-spectrum antimicrobials and invasive devices, adherence to infection prevention and control practices, and interfacility transfer communication are important mitigating strategies to reduce the incidence and spread of C. auris.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s92–s93

doi:10.1017/ash.2024.234

Presentation Type:
Poster Presentation - Poster Presentation
Subject Category: Emerging Pathogens

Clinical and Genomic Characteristics of Candida auris in Central Ohio: An Insight into Epidemiological Surveillance

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Background: Candida auris is an emerging threat to hospitalized patients and invasive disease is associated with high mortality. This study describes clinical and microbiological characteristics of nine patients identified with C. auris at Ohio State Wexner Medical Center discovered through active surveillance or clinical investigation and uses whole genome sequencing (WGS) to compare isolates. **Methods:** In November 2022, an active C. auris surveillance program was implemented to screen patients admitted to high-risk units (intensive care units and progressive care units). Bilateral axilla and groin swabs were obtained upon unit admission and, if positive, were submitted for C. auris polymerase chain reaction (PCR) with culture and sensitivity testing. Patients with a positive screening or clinical isolate from November 2022 to November 2023 underwent chart review for clinical characteristics, microbiologic data, and index admission information. For each isolate, DNA was extracted and WGS was performed. Core single nucleotide polymorphism (SNP) variation identified from the sequence data was used to infer genetic relationships among the isolates. **Results:** Nine patients were identified between November 2022 and November 2023. The clinical and microbiologic characteristics are summarized in Table 1. All patients were hospitalized at various acute care facilities across the state at least once in the preceding 12 months. C. auris was determined to be present on admission for 6 patients. For 5 of these patients, it was their first interaction with our healthcare system. Three patients were not in contact isolation for >3 days before C. auris was identified. Unit wide point-prevalence screening was completed in these cases and no evidence of transmission was found. WGS showed eight of the nine isolates were related with 28 or less core SNP differences between isolates (Figure 1). One isolate (8) was genetically distinct with >45000 core SNP differences. Five isolates were highly related with a range of 4-15 SNP differences. No temporal or spatial overlap at our institution was identified among these five patients. **Conclusions:** The active surveillance program identified several patients colonized with C. auris in addition to those found through clinical testing. Multiple risk factors for C. auris were identified with high patient mortality (67%). Majority of the isolates were closely related without association with a known outbreak or epidemiologic link, suggesting a possible diffuse common reservoir. Next steps with surveillance in acute care and long-term care facilities will be critical for early detection to halt transmission of this organism.

Table 1. Clinical and Microbiological Characteristics of *C. auris* Isolates

	Clinical Specimen	Screening Specimen
Total (N=9)	4	5
Sex, M	4 (100%)	5 (100%)
Median Age, years (range)	66 (33-72)	63 (48-71)
Site of *C. auris*		
Blood	2	0
Respiratory	2	1
Urine	3	0
Axilla/Groin Screen	1	5
Multiple sites	3	1
Present on admission (<hospital day 4)	2 (50%)	4 (80%)
Admission origin		
Hospital transfer	1	1
SNF	1	1
Long term acute care/acute rehab	1	2
Home	1	1
Travel Interstate	1	0
Travel Abroad	0	0
History of MDRO colonization	4 (100%)	2 (40%)
Indwelling Medical Device	3 (75%)	2 (40%)
Immunosuppressed	3 (75%)	1 (20%)
Antibiotic use in past month	4 (100%)	5 (100%)
Antifungal use in past month	3 (50%)	0 (0%)
Presence of chronic wound	4 (100%)	2 (40%)
Discharge status		
alive	1(25%)	2 (40%)
deceased	3 (75%)	3 (60%)
Isolate Resistance		
Fluconazole R	4	4
Echinocandin S	4	4

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s93

doi:10.1017/ash.2024.235

Figure 1: Dendrogram for *C. auris* isolates using core SNPs