Persistent Fungemia with Candida auris in a patient with Enterocutaneous fistula

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Introduction

Candida auris (C. auris) is a major emerging threat to the health care sector in view of difficulty in early identification by standard methods, multidrug resistance and ease of spread in health care settings. Here we report a case of persistent C. auris fungemia (>2months) in a patient with enterocutaneous fistula.

CASE

57-year-old man with psychiatric illness underwent surgery for jejunal diverticular perforation which was complicated by intra-abdominal abscesses, anastomotic leak, fecal fistula and multidrug resistant bacteraemia requiring higher antibiotics, total parenteral nutrition and prolonged ICU stay(45days).

Clinical course

Patient was admitted at our centre with sepsis induced multiorgan dysfunction syndrome and blood culture grew candida(Day 0). Patient was started on Inj Caspofungin (awaiting candida Identification, later on identified as C. auris). Patient's repeat blood culture (Day 3) grew C. auris, so flucytosine was added as a part of combination antifungal therapy. Patient continued to have intermittent C. auris on repeat blood cultures (Day 14 and Day 22) on dual antifungal therapy for 28 days. Work up for endocarditis, intrabdominal collection and endophthalmitis were negative. But patient was continued on total parenteral nutrition via central line in view of enterocutaneous fistula which was not operated initially in view of clinical instability. Pt underwent closure of enterocutaneous fistula 6 weeks after admission to our centre. Patient had one episode of gram negative bacteremia. Patient developed recurrence of fungemia after 4 days of stopping antifungal treatment(Day 45). Later on patient was started on Inj Micafugin and Voriconazole (in view of increased MIC flucytosine on follow up culture), on which cultures turned sterile and patient gradually improved. Patient received total 6 weeks of parenteral combination antifungal therapy following clearance of candida in blood cultures.

Antifungal agents MIC	(5/3/22) Day 0	(8/3/22) Day 3	(19/3/22) Day 14	(27/3/22) Day 22	(19/4/22) Day 45	(25/4/22) Day 51
Flucytosine	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≥ 64
Fluconazole	32	32	32	32	32	32
Voriconazole	1	1	1	1	1	0.5
Caspofungin	0.25	0.25	0.25	0.25	0.25	0.25
Micafungin	0.12	0.12	0.12	0.12	0.12	0.12
Amphotericin B	8	≥ 16	8	8	≥ 16	≥ 16

Table 1. Serial MIC of C. Auris in blood culture

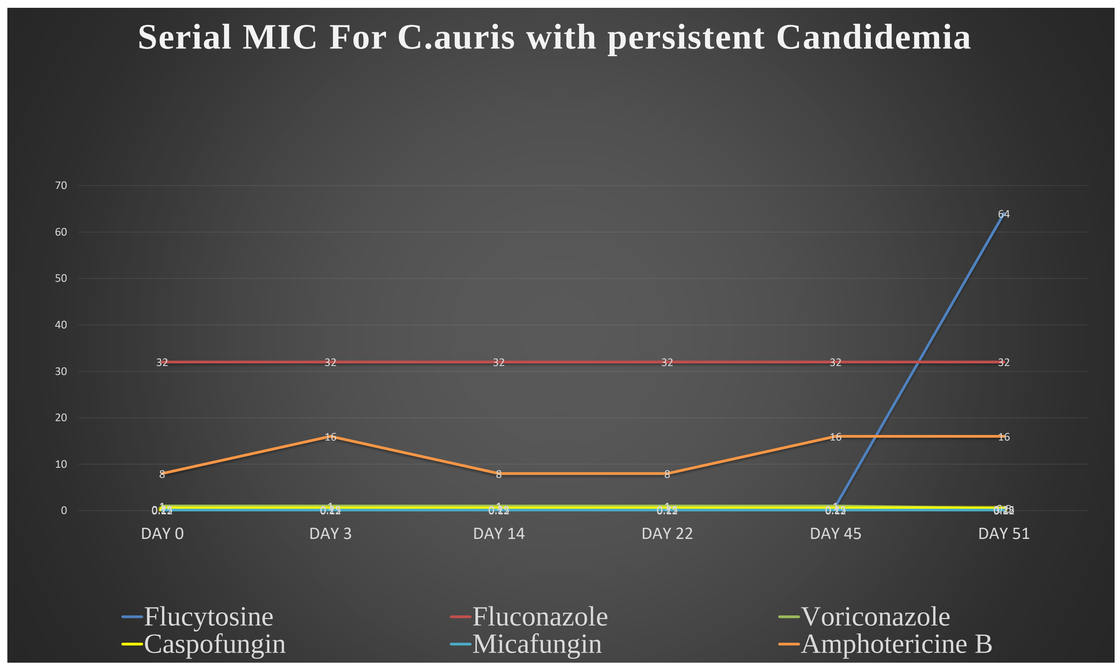

Figure 1. Serial MIC of C. Auris

Discussion

C. auris management complexities stems from multiple factors.

(1)Absence of C. auris specific minimum inhibitory concentration break points

(2)Lack of standard guidelines

Treatment is based on Centre for Disease Control's proposed breakpoints (extrapolated from other Candida spp.).

(3)In our case Serial blood cultures showed increasing MIC of antifungals (figure 1).

Inadequate source control (Enterocutaneous fistula and Total parenteral nutrition) could be the major reason for prolonged fungemia in our case despite of timely combination antifungal treatment. Amphotericin B was not used as initial blood cultures were having high MIC. Upfront combination antifungal treatment might be the answer till further studies.

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References

1. Centers for Disease Control and Prevention, national Center for Emerging and Zoonotic Infectious Diseases
2. Walia K, Chowdhary A, Ohri VC, Chakrabarti A. Multidrug-resistant Candida auris: Need for alert among microbiologists. Indian J Med Microbiol 2017;35:436
3. On the emergence, spread and resistance of Candida auris: host, pathogen and environmental tipping pointsChakrabarti and Sood, Journal of Medical Microbiology 2021;70:001318