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**Candida: An important partner in polymicrobial colonization on indwelling medical devices**

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Indwelling medical devices are of routine use in hospitals for patient care but they lead to the colonization of microbes on their surface making the patient vulnerable to device-related infections (DRIs). Biofilm formed due to the growth of microbes are the most common cause of device-related infections.

Objectives: To isolate, identify and study the microbial colonization of indwelling medical devices (urinary catheters and central venous catheters).

To quantify the biofilms formed by the isolates.

Method: In the present study, microflora was isolated from urinary catheters (n = 28) and central venous catheters (n = 23) that were catheterized in ICU patients. Quantification of biofilms was done by Crystal violet assay.

**Results:** Among 28 urinary catheters, 14 catheters had polymicrobial colonization (n = 10 mixed-bacterial and fungal colonization, n = 3 poly-bacterial, and n = 1 poly-fungal), 10 catheters were observed to have mono-species colonization (n = 6 fungal, n = 4 bacterial), while 4 catheters did not show any colonization. Whereas among 23 central venous catheters, only 3 catheters showed mono-bacterial colonization and 2 catheters showed mono-fungal growth and 20 catheters did not show any colonization. A total of 46 isolates were obtained from all urinary and central venous catheters, out of which Candida spp. was found to be highest in number with n = 13 and 30% of total isolates obtained (Fig. 1 shows the distribution of microflora obtained). The interesting observation in the study is that Candida spp. was found to have multi-species colonization with bacterial isolates (Pseudomonas aeruginosa, Klebsiella pneumoniae, Acinetobacter baumannii, Enterobacter cloacae, and Stenotrophomonas maltophilia) as well as fungal isolates (Trichosporon asahii). Quantification of biofilm formed by these isolates was carried out by crystal violet assay and it was observed that 35.6% isolates formed strong biofilms of which Candida spp. was a major contributor. It was also observed that Candida spp. was always the strongest biofilm forming partner in mixed species biofilms.

**Conclusion:** It was concluded that majority of colonization on indwelling medical devices are polymicrobial and Candida spp. appears as an important partner in polymicrobial colonization. Among all obtained isolates maximum were strong biofilm forming of which Candida spp. was the major contributors.
Saksenaea vasiformis infection: case report of extensive abdominal wall necrotizing fasciitis with systematic review and analysis of 64 cases

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Introduction: Saksenaea vasiformis is a rarely reported Mucorales causing mucormycosis in both immunocompromised and immunocompetent individuals. Due to few reported cases, the clinical characteristics and optimal management strategy for this rare agent are not clearly described. Therefore, we conducted a combined analysis of a case of extensive abdominal wall necrotizing fasciitis from our center with individual patient data extracted from other reports in world literature to give an overview of clinical and demographic profiles as well as factors affecting outcomes in this rare infection.

Methods: We systematically reviewed Medline, Embase, and CINHAL for studies on S. vasiformis infections reported till January 1, 2022, and 57 studies (63 patients) were retrieved. We also describe clinical and demographic characteristics and outcomes of a case of extensive abdominal wall necrotizing fasciitis managed at our institution.

Results: Of the 64 included cases, the majority were reported from India (26.6%). The most common risk factors for infection were accidental trauma (31.3%), healthcare-related wounds (14.1%), and animal/insect bites (12.5%). Subcutaneous infection was the most common clinical presentation (60.9%), followed by rhino-orbito-cerebral mucormycosis (ROCM) (34%), necrotizing fasciitis (10%), and disseminated infection (9.3%), pulmonary (3.2%) and osteomyelitis (1.6%). Mortality was observed in 24 (37.5%) patients and healthcare-related injuries were significantly associated with higher mortality (P = 0.001). The use of posaconazole (P = 0.019) and surgical intervention (P = 0.032) was associated with significantly better survival.

Discussion: In this study, we describe the largest compendium of mucormycosis due to S. vasiformis and can be useful in increasing awareness regarding this rare Mucorales in addition to guiding patient management.