Saccharomyces kluyveri Fungemia in an Infant with Severe Combined Immunodeficiency

Saccharomyces kluyveri is budding yeast related to *Saccharomyces cerevisiae* [1]. In literature, we could locate only one case report of disseminated fungemia in an adult patient with AIDS due to *S. kluyveri* [2]. We report *S. kluyveri* fungemia in a child who had severe combined immunodeficiency (SCID).

A 5-month-old boy presented to us with fever and cough for 15 days and one episode of generalized tonic clonic convulsion. He had oral thrush at 1 month and otitis media at 2 months of age. Birth weight was 2.9 kg. His elder brother died at 11 months of age due to some respiratory illness. On presentation, he was lethargic, and had tachycardia and tachypnea. He had oral thrush, diffuse greyish rash all over body, and hepatosplenomegaly. Investigations showed lympho-cytopenia and thrombo-cytpoenia. HIV ELISA was negative. Chest *X*-ray showed ill-defined patch in left upper zone. Blood bacterial culture did not grow any organism. Serum immunoglobulins and lymphocytes subset analysis revealed low levels of IgG, IgA, CD3 + T lymphocytes, CD4 + th lymphocytes, CD8 + Tc lymphocytes, and CD 16 + 56+ Natural Killer Cells. Child was started on broad spectrum antibiotics and fluconazole. Computed tomography of chest revealed small cavitating nodule of 9 X 8 mm in anterior segment of left upper lobe suggestive of aspergillosis. Serum galactomannan was positive. A simultaneous blood fungal culture grew *S. Kluyveri,* which was sensitive to Amphotericin B and resistant to flucytosine and fluconazole. He was started on Liposomal Amphotericin B, and fluconazole was stopped. On Day 10 of liposomal amphotericin B, his blood culture still grew fungus, and thus caspofungin was added as salvage therapy. Supportive treatment was given in form of irradiated packed red blood cells and platelet transfusion along with intravenous immunoglobulin. After one week patient was transferred to a transplant centre for bone marrow transplant (BMT).

S. kluyveri is a widespread plant pathogen infecting strawberries and is also found in exudates of trees, soil, fruit flies and fruit juices [1]. The role of this microorganism as a human pathogen is unknown. *Saccharomyces cerevisiae* (also known as brewer's or baker's yeast) has been reported as a cause of fungemia, peritonitis, pleural effusion, esophagitis, endocarditis and arthritis in immunocompromised patients. Deep mycoses in immunosuppressed patients are acquired by inhalation, through paranasal sinuses, or by enteric invasion [3]. Main risk factor of severe fungal infection in our patient was profound immune deficiency.

Although *S. kluyveri* fungemia is rare, this opportunistic organism should not be ignored as non-pathogenic. The emergence of new fungal pathogens i.e *S. kluyveri* in cases of fungemia, particularly those with reduced susceptibility to azole anti-fungals reinforces the importance of proper mycological examination of these samples [4].

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