Rhodotorula rubra

A twelve year old female with a clinical diagnosis of right aortic valve regurgitation and subpulmonic stenosis in a case of situs inversus, dextrocardia, C-TGA was operated for right aortic valve replacement with Omni carbon valve and had a permanent pace maker implantation. She had a prolonged ventilation period of greater than 25 days. She was on stiff inotropes during that period and had post-operative renal and liver failure for which she was treated conservatively. She was on multiple intravenous lines and received multiple broad spectrum antibiotics. The central venous line tip was sent for culture on 20/09/02 which grew a pigmented yeast-like organism along with Staphylococcus aureus. Her blood culture showed no growth. She was given appropriate antibitocs and antifungals.

Rhodotorula rubra is a yeast of low virulence which produces a mucoid colony that could be deep coral to salmon pink (Fig. 1). They are frequently isolated from air, fruit juice, dairy products, soil and water. This yeast (Fig. 2) has been cultured occasionally from urine, stool and sputum of hospitalized patients. They fail to ferment any sugars, but assimilate glucose, maltose, sucrose and galactose but not cellobiose and lactose. They grow well at 25°C but the growth is very inhibited at 37°C. They are urease positive but fail to assimilate nitrate.

Infection with Rhodotorula species is rare with occasional reports of fungemia, endocarditis, meningitis and ventriculitis. Fungemia is the most frequent form of Rhodotorula infection occurring typically in patients with cancer, in those with debilitating diseases and those receiving antibiotics through indwelling intravenous catheters. Contaminated central venous lines could be the source for these unusual yeast infections.

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Fig. 1 : Culture on Sabourad’s dextrose agar after 72 hours. Mucoid pink yeast-like colonies.

Fig. 2 : Gram smear of culture showing budding yeast cell x 1000