

Abstract

Introduction

Candidaemia is an infection with a high mortality rate which ranks at the fourth place among hospital acquired infections. The main reasons for the high mortality are delay in initiation of antifungal therapy or treatment with an ineffective antifungal. Ability to predict this infection gives a significant advantage for the clinician by pre-emptive treatment and reduce mortality.

Methodology

Study was conducted on neonatal, paediatric and adult ICUs of the main teaching hospital in the southern province of Sri Lanka. Screening specimens of oral, rectal Central Venous (CV) line swabs and urine and other available sterile fluids were collected from admission and every third day until discharge, death or development of Candidaemia in the patient. Candida Colonization index, Corrected Candida Colonization index, Candida score and a new Candida score according to the identified risk factors was calculated for each patient.

Results

Out of the 100 patients who developed colonization 10 patients developed Candida blood stream infection. Presence of Sepsis, presence of a Gastro Intestinal (GI) infection or surgical procedure, number of antibiotics given, CV line colonization and density of rectal, oral and urine colonization, and change of species of colonizing candida was significantly different among the infected and non-infected groups. Candida score and New Candida score had 100% sensitivity and the highest specificity of 94% was given by Corrected Candida Colonization index.

Risk factors identified by the study were similar to other studies conducted in Europe and USA except for CV line colonization and change of colonizing Candida species which were not identified as risk factors in previous studies.

All the indexes and scores had excellent sensitivity and negative predictive values. However none of the scores had good specificity except for Corrected Candida colonization index.

Conclusion

Combination of Corrected Candida Colonization index, Candida Score or the new Candida score formulated for the study sample could reliably predict Candidaemia.

Presence of Sepsis, presence of a GI infection or surgical procedure, number of antibiotics given, CV line colonization and density of rectal, oral and urine colonization and change of colonizing species of Candida were identified as risk factors for Candidaemia for the study sample.