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Potential association of specific *Candida parapsilosis* genotypes, bloodstream infections and colonization of health workers' hands

Demetrio Delfino<sup>1</sup>, Fabio Scordino<sup>2</sup>, Ida Pernice<sup>2</sup>, Carla Lo Passo<sup>2</sup>, Roberta Galbo<sup>2</sup>, Antonio David<sup>3</sup>, Ignazio Barberi<sup>4</sup>, Giuseppe Criseo<sup>2</sup>, Antonio Cascio<sup>1</sup>, Orazio Romeo<sup>2</sup>

<sup>1</sup>Department of Human Pathology, University of Messina, Messina, Italy

<sup>2</sup>Department of Environmental and Biological Sciences, University of Messina, Messina, Italy

<sup>3</sup>Department of Neurosciences, Psychiatric and Anesthesiological Sciences, University of Messina, Messina, Italy

<sup>4</sup>Neonatal Intensive Care Unit, Department of Pediatrics, University of Messina, Messina, Italy

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Corresponding author. O. Romeo, PhD, Department of Environmental and Biological Sciences, Viale Ferdinando Stagno d'Alcontres, 31 - 98166, Messina, Italy. Tel.: +39 090 6765203; fax: +39 090 392733. E-mail: oromeo@unime.it

## Abstract

Fungal nosocomial infections continue to be a serious problem among hospitalized patients, decreasing quality of life and adding millions of euros to healthcare costs. The aim of this study was to describe the pattern of fungi associated with the hands of healthcare-workers and to genotyping *Candida parapsilosis* isolates in order to understand whether their high clinical prevalence stems from endemic nosocomial genotypes or from the real emergence of epidemiologically-unrelated strains. Approximately 39% (50/129) of healthcare-workers were positive for yeasts and among 77 different fungal isolates recovered, *C. parapsilosis* was the most frequent (44/77; 57%). Twenty-seven diverse genotypes were obtained by microsatellite analysis of 42 selected blood and hands isolates. Most of the isolates from hands showed a new, unrelated, genotype whereas a particular group of closely related genotypes prevailed in blood samples. Some of the latter genotypes were also found on the hands of healthcare-workers indicating a persistence of these clones within our hospital.

*C. parapsilosis* genotypes from the hands were much more heterogeneous than clinical ones, thus reflecting a high genetic diversity among isolates which is notably unusual and unexpected for this species.

## Introduction

In the past years, a significantly increased frequency of invasive fungal infections has been repeatedly reported worldwide [1,2] and directly related to the growing numbers of patients with a variety of risk factors including neoplastic disease, HIV-infection, chemotherapy and several other clinical treatments [3]. This expanding complex population of patients raised the spectrum of fungal

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