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Microbiological and molecular characterization of environmental *Mycobacterium* strains isolated from the Buruli ulcer endemic and non-endemic zones in Côte d'Ivoire

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Mycobacterium ulcerans (MU), the causative agent of Buruli Ulcer (BU), skin disease, is considered to be an environmental pathogen. The pathogenic virulence of *Mycobacterium ulcerans* is being linked to the expression of toxin called mycolactone. Genetic analyses have shown the high diversity with Variable Number Tandem Repeats (VNTR) and Mycobacterial Interspersed Repetitive Units (MIRU) in *M. ulcerans* and in Mycolactone Producing Mycobacteria (MPMs). The purpose of this study is the molecular characterization of potentially pathogenic environmental mycobacteria strain, apart from the *M. ulcerans*, from aquatic environments in Côte d'Ivoire. A total of 473 samples were collected comprising of 251 water and 222 sediment based on sampling sites. The sediments were the most contaminated by mycobacteria with 60% as against 43.3% in water samples from the hyperendemic areas. In hypoendemic areas, water was the most contaminated with 53.57% against 43.24% in sediment. Microscopy by Ziehl-Neelsen-staining and PCR diagnostics using IS2404 and ketoreductase (KR) were performed on strains. 20% fast growing isolated mycobacteria species including *Mycobacterium mucogenicum, Mycobacterium peregrinum and Mycobacterium* sp. was found carrying the IS2404 gene previously found in *Mycobacterium ulcerans*. 9.23% of strains carry the ketoreductase genes, one of the synthesis of mycolactone enzymes. In terms of genetic analysis using the MIRU/VNTR, the MIRU1 was the most amplified sequence and LOCUS 6 less amplified; no known profile have been identified in this study. This study is the first step taken in order to understand different skin infections encountered in Côte d'Ivoire.

Biography

Kalpy Julien Coulibaly is a Physician Specialist in Microbiology and holds a PhD in Human and Tropical Biology. He is the Head of the Environment and Health Department of the Institut Pasteur de Côte d'Ivoire. He is specialist in diseases that can be transmitted to humans via the aquatic ecosystem.

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