

Assessment of the State of Hygiene in a Tunisian Hospital Kitchen: Interest of Mycological and Parasitological Samples from Food Handlers and Environment

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Abstract : Introduction Food hygiene in hospitals is important, particularly among patients who could be more vulnerable than healthy subjects to microbiological and nutritional risks. The consumption of contaminated food may be responsible for foodborne diseases, which can be severe among hospitalized patients, especially those immunocompromised. The aim of our study was to assess the state of hygiene in the internal catering department of a Tunisian hospital. Methodology and major results: A prospective study was conducted for one year in the Parasitology-Mycology laboratory of Charles Nicolle Hospital. Samples were taken from the kitchen staff, worktops, and cooking utensils used in the internal catering department. Thirty one employees have benefited from stool exams and scotch tape in order to evaluate the degree of infestation of parasites. 35% of stool exams were positive. Protozoa were the only parasites detected. Blastocystis sp was the species mostly found in nine food handlers. Its role as a human pathogen is still controversial. Pathogenic protozoa were detected in two food handlers (*Giardia intestinalis* in one person and *Dientamoeba fragilis* in the other one. Non-pathogenic protozoa were found in two cases; among them, only one had digestive symptoms without a statistically significant association with the carriage of intestinal parasites. Moreover, samples were performed from the hands of the staff in order to search for a fungal carriage. Thus, 25 employees (81%) were colonized by fungi, including molds. Besides, mycological examination among food handlers with a suspected dermatomycosis for diagnostic confirmation concluded foot onychomycosis in 32% of cases and interdigital intertrigo in 26%. Only one person had hand onychomycosis. Among the 17 samples taken from worktops and kitchen utensils, fungal contamination was detected in 13 sites. Hot and cold equipment were the most contaminated. Molds were mainly identified as belonging to five different genera. *Cladosporium* sp was predominant. Conclusion: In the view of the importance of intestinal parasites among food handlers, the intensity of fungi hand carriage among these employees, and the high level of fungal contamination in worktops and kitchen utensils, a reinforcement of hygiene measures is more than essential in order to minimize the alimentary contamination-risk.

Keywords : hospital kitchen, environment, intestinal parasitosis, fungal carriage, fungal contamination

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