

## Epidemiology of Systemic Candidiasis in High-Risk Departments at the University Hospital and the Anti-Cancer Center of Batna-Algeria

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### ABSTRACT

**Background:** Systemic candidiasis are serious conditions responsible for high mortality. The objective of this work is to describe the epidemiology of systemic candidiasis in the high-risk departments at the UH and the ACC of Batna-Algeria with a descriptive analysis of the isolated species, of the risk factors, and of the factors influencing the evolution and the disease prognosis.

**Patients and Methods:** This is a descriptive prospective study over a period of three years (January 2016 to December 2018). The patients included are those with at least one positive deep swab for *Candida spp.* For each patient, samples were taken from peripheral sites in order to calculate the Pittet colonization index. The identification of the isolated species was carried out by Api Candida gallery (Biomerieux).

**Results:** A total of 69 cases of systemic candidiasis corresponding to 75 isolates and concerning 63 patients could be analyzed, the sex ratio M / W = 1.86. The overall incidence was 2.62 cases per 1000 admissions. The intensive care unit and hematology / ACC were most at risk for Systemic candidiasis. The main reasons for hospitalization were hematologic malignancies and septic shock. The presence of colonization (>2 sites), broad-spectrum antibiotic therapy, an intravascular catheter, corticosteroid therapy, chemotherapy, neutropenia, hematologic malignancy and bladder catheterization were the most common risk factors. Analysis of the strains isolated showed the predominance of non-albicans species by addition to the *Candida albicans* species. *Candida parapsilosis* was the predominantly isolated non-albicans species (42.66%). The colonization index  $\geq 0.5$  was significantly associated with the risk of systemic candidiasis. The use of Azoles was associated with the highest mortality rate (19%) compared to that obtained with the use of Echinocandins (Caspofungine) (9%). The death rate is significantly high 51%, influenced by several factors which underlines the seriousness of these infections.

**Conclusion:** Risk factors and a colonization index  $\geq 0.5$  in high-risk departments, especially intensive care units and hematology / ACC, are a predictor of systemic candidiasis. Therapeutic care must be instituted to reduce the mortality rate and avoid complications linked to these infections.

**Keywords:** Systemic candidiasis, *Candida parapsilosis*, *Candida albicans*, Pittet colonization index, Azoles, Echinocandin, Caspofungin

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