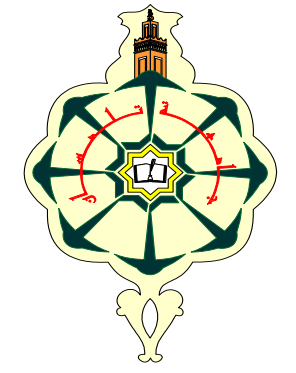


Impact of candidal biofilms vs patient's age



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Introduction

Catheters are mainly used for driving physiological fluid inside the body of the patient or vice versa. However, these medical devices constitute an ideal surface to form fungal biofilms. That it's known, these structures are a significant medical problem because they frequently formed on catheters and are difficult to eliminate. However, are nosocomial infections and fungal biofilms severity varying between young and old patients? Is that true for the different age bracket?

The aim of this study was to assess the relationship between the age and the gender of patients and the fungal biofilms formation on the catheters' surfaces.

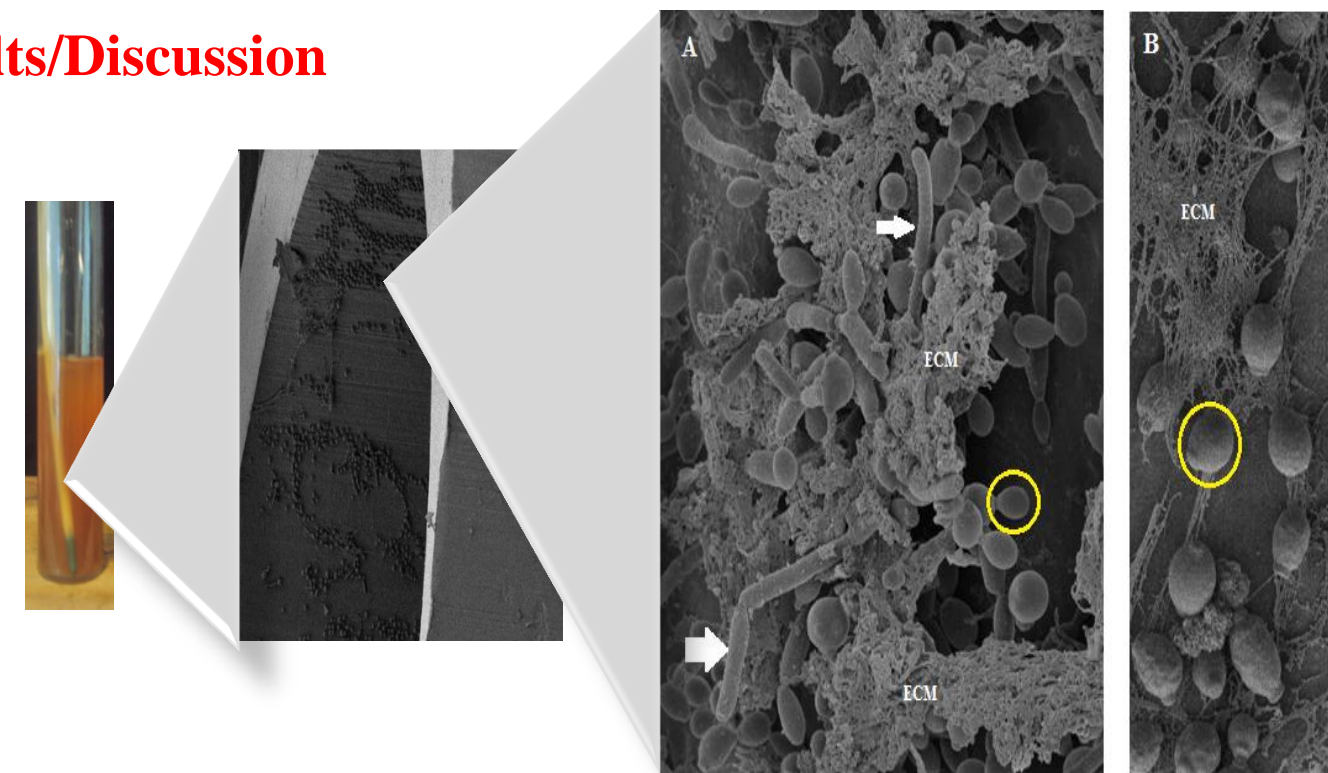
Material/Methods

Adult patients were classified in two different groups: young patients (18 – 39) and old patients (40 and more).

Catheters' infections were evaluated using the method of Seddiki et al (2015).

The segments of different catheters were observed in the scanning electron microscope.

Results/Discussion

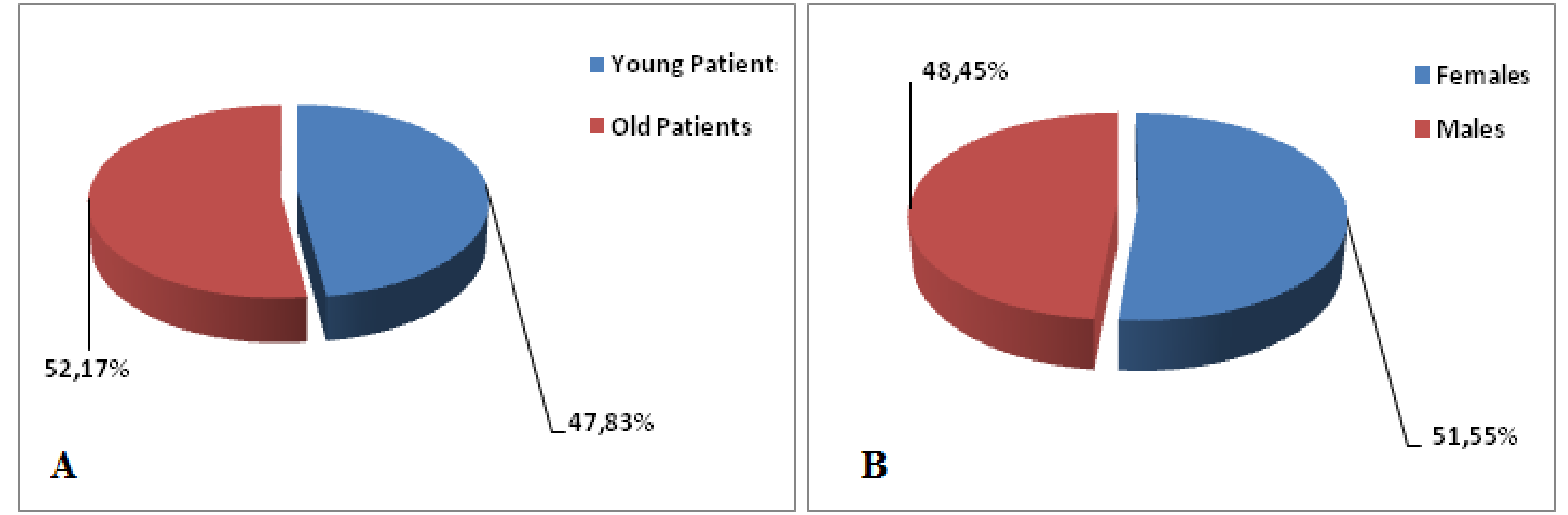


Biofilms' structure of (A) *Candida albicans* and (B) *Candida glabrata*. Blastospores (circle) and filamentous forms (arrows) are surrounded by extracellular matrix (ECM), (Magnitude: A x 2500, B x 2800)

Results revealed that more than 7 % of catheters were altered by *Candida sp.* On the other hand, the SEM images showed different structures of biofilms. According to the species, blastospores and filamentous forms were observed.

According to their age bracket, there was no significant difference between young and old patients ($P > 0,05$). They have roughly the same rates of infection with a slight increase for older patients. According to Develoux and Bretagne (2005), age over 65 years is a factor predisposing to infection. However, younger patients with penetrating trauma have the greatest risks.

Similarly to the age of patients, the gender appears not have any effect ($P > 0,05$). Our results are in agreement with those of Chow et al., (2008), these authors have found no significant difference in patients' gender. Conversely, Paulitsch et al., (2009) reported that the isolates of *Candida sp.* from catheters are significantly positive in men than women.



Rates of catheters infections according to the patient's age bracket (A) and the patient's gender (B)



Conclusions

As conclusion, patient age and gender does not necessarily constitute a fundamental parameter of the severity of nosocomial infections. As a final point, further researches are necessary to confirm these results and to analyze the predisposing factors.

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