

## ***The Extracellular Matrix of Candida albicans Biofilms Impairs Formation of Neutrophil Extracellular Traps.***

Asrar Mohammed khair Ali Mohammed

Sharq Elneil Collage, Bahri, Khartoum, Sudan



### ***Abstract***

**C**andida albicans is the most common hospital-acquired fungal pathogen and frequently adopts a biofilm lifestyle, growing in communities which are adherent to medical devices or mucosal surfaces. As an adherent microbial community, Candida is capable of withstanding conventional antifungals and host defenses. Fully established Candida biofilms consist of a dense network of yeasts, hyphae and pseudohyphae embedded in a matrix of polysaccharides, proteins.

The fungal biofilms related with these devices are extremely difficult to eliminate clinically, and studies are just beginning to shed light on how they survive immune attack. Actually Neutrophils are a critical first line of defense against fungal pathogens, including Candida. In response to planktonic, or non-biofilm C. albicans, they release neutrophil extracellular traps (NETs), which are webs of DNA, histones, and proteins with antifungal activity. These structures can prevent pathogen dissemination and kill organisms too large to be phagocytosed. However, a recent investigation revealed that neutrophils fail to release NETs in response to biofilms produced by C. albicans. Thus studies have examined the interactions between human phagocytes and planktonic Candida spp. the corresponding phagocyte-biofilm interactions, are largely unknown. Chandra et al first addressed the role of host immune cells in the growing Candida biofilm.



However, it is unknown how Candida within the established biofilm responds to phagocytes especially Neutrophil. Similarly, it is unknown how antifungal agents interact with phagocytic cells against Candida biofilms.

### ***Biography:***

Asrar Mohammed khair Ali Mohammed has completed her Master degree at the age 24 years in Medical Microbiology from Alzheim AlAzhari University, Faculty of Medical Laboratory Sciences. She is the head of Clinical Immunology department at Sharq Elneil Collage since 1/8/2017 up to date. She is a senior Microbiology first Specialist at Alqimma Specialized Hospital since 25/1/2015 up to date.

### ***Speaker Publications:***

1. "Frequency of (G428A) Polymorphism within FUT2 Gene among Symptomatic Asthma Diseases in Sudanese Patients; EUROPEAN ACADEMIC RESEARCH; 2016."

[3<sup>rd</sup> Annual Conference on Epidemiology and Public Health Webinar- December 18, 2020](#)

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