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Antifungal metabolites from *Streptomyces sp*. as potential biomolecules to combat multi-resistant *Candida sp*. responsible of vaginal candidiasis

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Abstract :

Fungal infections are considered as a global public health issue. These affect more than a billion people with around 11 million cases per year, and responsible for significant morbidity and mortality worldwide, particularly in immunocompromised patients. *Candida sp*. is among the main fungi involved in hospital infections, and *Candida albicans* is especially the causative agent of candidiasis in humans. Even though this fungal species is part of the normal microbiota of the mucous membranes of the oral cavity, gastrointestinal tract, and vagina in healthy humans, it can cause superficial and systemic infections in immunocompromised situations in certain circumstances and in susceptible individuals. This is due to their high adaptability to different host niches. A recent increase in the number of *Candida albicans* strains resistant to currently used antifungal drugs has encouraged researchers and scientists throughout the world to search new sources of antifungal molecules to effectively treat mycotic infections. *Streptomyces* is a bacterial genus, gram positive, widely recognized for its capacity in producing multiple bioactive molecules such as numerous natural antibiotics. This microorganism appears therefore among the potential candidates for producing new natural drugs to combat the emergence of bacterial antimicrobial resistance (AMR). This paper will report on the antifungal activities of two efficient metabolites isolated by our team from a culture media of identified *Streptomyces sp*. for treating vaginal candidiasis caused by multidrug-resistant *Candida albicans*. The next step will be the chemical structure identification of these bioactive metabolites.

Keywords : Global public health; Fungal infections; Beneficial microbes; AMR; Secondary metabolites.