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Identification and investigation of drug-resistant yeast species isolated from the skin of patients with acne clinical protests referred to the dermatology clinic in west Mazandaran

Ayatollah Nasrollahi Omran, Alinaghi Ghiasi and Negin Naghdi
Islamic Azad University, Iran

Introduction: Acne is a pathological disorder and a chronic inflammation in the sebaceous follicles and one of the most popular dermatology damages that has affected millions of people worldwide. Bacterial and fungal skin flora agents involved in its creation.

Aim: In this study we aimed to identify and investigate drug-resistant yeast species isolated from the skin of patients with acne clinical protests referred to the dermatology clinic in west Mazandaran.

Method: In this cross-sectional study of 70 clinical specimens from suspected skin with acne protests were collected by sterile swab and were streaked on SDA medium containing chloramphenicol. The plates were incubated for 48 hours in 37 °C. Suspected colonies were studied through microscopic examination and subsequent passage in accordance with mycology of standard procedures and specify the type of fungal colony color in CHROM agar for the isolation of the yeast. For final approval *Candida* species sequencing method was performed and susceptibility testing was performed to review *Candida* for drug-resistant isolates based on CLSI method.

Result: Of 70 clinical isolates studied, 11 species of *Candida* including *C. parapsilosis* 8 (72.73%), *C. krusei* 1 (12.5%), *C. lusitanae* 1 (12.5%), *Candida kefir* 1 (12.5%) and a *Trichosporon asahii* were identified and isolated. *C. parapsilosis* isolates susceptibility to various concentrations of the antifungal agents to isolate Cp1 study has shown that the isolated Cp8, Cp5 with MIC5 equal to 32, 0.5, 0.25 and MIC90 of <64, <1, <0.5 µg/ml fluconazole, itraconazole and ketoconazole were respectively resistant. Apart from the isolation of Cp1 and Cp8 which had relative strength almost all other species of *C. parapsilosis* isolates were susceptible to these drugs.

Conclusion: Etiological factors, pathogenesis, drug resistance and risk factors of acne and the role of yeast to induce skin disease as a contributory factor in causing acne can be a topic of interest in dermatology.

AYAT51@yahoo.co.in

The ability of the entomopathogenic fungus *Conidiobolus coronatus* to insect infection

Emilia Wloka, M Ligeza-Zuber, A Kaczmarek, M Kazek, A Wronska, M Bogus and W Stefanski
Witold Stefański Institute of Parasitology, Polish Academy of Sciences, Poland

Excessive use of pesticides poses a threat to human health, biodiversity and pollutes the environment. An alternative to chemical insecticides might be use of entomopathogenic soil fungus *Conidiobolus coronatus* which hydrolyzes the hard insect cuticle by means of proteases, chitinases and lipases. However, mechanisms underlying regulation of the virulence of *C. coronatus* remain obscure. The aim of the study was to verify whether the proteo, chitino and lipolytic activities of mycelia grown in various conditions is correlated with the virulence and cytotoxicity towards *Galleria mellonella* immunocompetent cells (hemocytes) and cell line Sf9. Fungal cultures were grown on the Sabouraud medium (SAB) enriched with the homogenate of *G. mellonella* larvae (SAB-GM). Control cultures were propagated on the SAB. It was found that only the young SAB-GM cultures were highly virulent and infect 100% of tested insects, while the SAB cultures retained high virulence for 3 weeks. The decrease in the virulence of SAB-GM cultures is not correlated with the enzyme activities. However a higher cytotoxicity of the SAB-GM cultures comparing with the SAB cultures indicates that the insect body components modulate fungal virulence and cytotoxicity.

milka@twarda.pan.pl