عنوان مقاله:

Candida Berkh. (۱۹۲۳) Species and Their Important Secreted Aspartyl Proteinases (SAP) Genes Isolated from Diabetic Patients

محل انتشار:

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خلاصه مقاله:

Background: Candida Berkh. (۱۹۲۳) occurs naturally in the body. But it becomes opportunistic fungi, meaning that it infects humans when there is any weakening of the immune system, such as exposure to chemotherapy, diabetes, or organ transplantation. Most species of Candida grow at a temperature between ۲۰-۴۰ °C and have a pH of ۳-۸. Human pathogens of Candida species include C. albicans, C. glabrata, C. lusitaniae, C. parapsilosis, C. tropicalis and C. utili. C. albicans has many virulence factors that facilitate injury process. Virulence factors are considered as a measure of pathogenicity, and it is in the form of fungal toxins, enzymes, or cell structures that facilitate infection, as well as pathogen resistance in different conditions. This study aimed to investigate the frequency of some secreted aspartyl proteinases (SAP) genes from some Candida species isolated from diabetic patientsMethods: Candida spp. were identified on CHROMagar medium by color of each species after incubation at ۳۷ °C for ۴۸ hours such as: C. krusei, C. albicans, C. glabrata, and C. tropicalis. Germ tube formation test was used to distinguish between germ tube-forming species, such as C. albicans and C. dubliniensis , from those that do not produce germ tube. A portion of the isolation was taken and placed in a test tube containing ۰.۵ ml of serum, and then incubated at ۳۷ °C for ۲-۴ hours. A drop of serum was taken out and examined under a microscope for the presence of the germ tube. Growth at ۴۵ °C, has the advantage of distinguishing between C. albicans and C. dubliniensis by culturing Candida spp. on SDA medium and, incubation for ۴۸-۷۲ hours at ۴۵ °C.Results: The results of isolation and diagnosis showed that Candida species grew at ۳۷ °C for ۴۸ hours on SDA medium, the shape of the colonies was round or oval-convex, and creamy white, shiny and smooth color. The results of the microscopic examination of the cells were spherical or oval, C. albicans was distinguished by its ability to grow at ۴۵ °C and its ability to form the germ tube. The surface growth test showed the ability of C. tropicalis to grow surface on SDB medium. The medium of CHROMagar showed that C. albicans were light green in color. C. glabrata showed a pale pink color, while C. tropecalis showed a blue color and C. dublineiensis was dark green. DNA extracted samples, including ۲۰ isolates, were used for four species of Candida, ۱-۹ C. albicans, ۱۰-۱۶ C. glabrata, ۱۷-۱۸ C. dubliniensis and ۱۹-۲۰ C. tropicalis. Parts of the body (mouth, vagina, Urine) ... detect SAP۱ and SAP۷ genes by PCR, and after electro

کلمات کلیدی:

diabetic patients, Candida spp, Polymerase chain reaction, SAP۱, ۷ genes