**عنوان مقاله:**

Isolation of Mucorales from biological environment and identification of Rhizopus among the isolates using PCRRFLP

**نویسندگان:**

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**خلاصه مقاله:**

Background and aims: Mucorales are fungi belonging to the category of Zygomycetes, found much in nature. Culture-based methods forclinical samples are often negative, difficult and time-consuming and mainly identify isolates to the genus level, and sometimes only asMucorales. Therefore, applying fast and accurate diagnosis methods such as molecular approaches seems necessary. This study aims atisolating Mucorales for determination of Rhizopus genus between the isolates using molecular methods.Methods: In this descriptive observational study, a total of ۵۰۰ samples were collected from air and different surfaces and inoculatedon Sabouraud Dextrose Agar supplemented with chloramphenicol. Then, the fungi belonging to Mucorales were identified and theirpure culture was provided. DNA extraction was done using extraction kit and the chloroform method. After amplification, the samplesbelonging to Mucorales were identified by observing ۸۳۰ bp bands. For enzymatic digestion, enzyme BmgB۱ was applied for identificationof Rhizopus species by formation of ۵۹۳ and ۲۳۵ bp segments.Results: One hundred pure colonies belonging to Mucorales were identified using molecular methods and after enzymatic digestion, ۲۱isolates were determined as Rhizopus species. The sequencing of PCR products and macroscopic and microscopic studies confirmed theexistence of R. stolonifera, R. oryzae and R. caespitosus in the samples.Conclusion: Generally, developing a reliable method for determining Zygomycete species can be a useful tool for better understanding ofthe epidemiology of mucoromycosis.

**کلمات کلیدی:**

Mucorales, Rhizopus, PCR-RFLP, Isolation, Environment