

عنوان مقاله:

Molecular identification of Fusarium species complex isolated from clinical samples and its antifungal susceptibility patterns

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خلاصه مقاله:

Background and Purpose: More than ۳۰۰ Fusarium species are grouped into approximately ۲۳ species complexes out of which around ۷۰ are involved in human infections. The nomenclature of these species has undergone considerable changes in recent years. These species cause localized infections in individuals while inducing systemic infections mainly in immunocompromised patients. The present study was conducted to identify Fusarium species in clinical isolates by molecular methods and determine their in vitro minimum inhibitory concentration (MIC) patterns to address the lack of data in this domain in Northern India. **Materials and Methods:** For the purpose of the study, Fusarium isolates obtained from various clinical samples were sent to the Westerdijk Fungal Biodiversity Institute, Utrecht, the Netherlands, for molecular identification. The MIC testing was performed using the microbroth dilution method as per the Clinical and Laboratory Standards Institute reference method (M۳۸-A۲). **Results:** Fusarium was isolated from ۳۳ patients (i.e., ۱, ۱, ۲, ۱۴, and ۱۵ cases with endophthalmitis, sinusitis, pulmonary involvement, onychomycosis, and keratitis, respectively). These ۳۳ isolates belonged to three species complexes, namely F. solani species complex (FSSC; n=۱۳), F. fujikuroi species complex (FFSC; n=۱۳), and F. incarnatum equiseti species complex (FIESC; n=۷). The species identified within FSSC, FFSC, and FIESC included F. keratoplasticum (n=۶)/F. falciforme (n=۶)/F. solani (n=۱), F. proliferatum (n=۷)/F. sacchari (n=۵)/F. anthophilum (n=۱), and F. incarnatum SC species (n=۶)/F. equiseti SC species (n=۱), respectively. The MIC results showed that all isolates had a lower MIC against amphotericin B than against the other antifungal agents. **Conclusion:** Timely diagnosis and appropriate treatment will facilitate the improvement of patient outcomes.

کلمات کلیدی:

Fusarium, Molecular identification, Keratitis, Onychomycosis, Taxonomy

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