**ABSTRACT**

Zygomycetes are opportunistic fungal pathogens that cause systemic infections. Identification at the species level is critical for patient management.

**BACKGROUND**

Zygomycetes are a diverse group of fungi that are opportunistic pathogens and are frequently involved in infections. Screening for zygomycetes is critical for patient management, as these infections can be difficult to treat.

**METHODS**

We used automated rep-PCR to identify 20 zygomycete isolates recovered from cancer patients at a tertiary-care cancer center. The PCR fragments were sequenced and analyzed for species identification. The results were compared with the species catalog to determine the most likely species.

**RESULTS**

The most likely species identified were Rhizopus, Mucor, and Cunninghamella.

**CONCLUSIONS**

The automated rep-PCR system is a rapid and accurate method for identifying zygomycete species. This method can be used to improve patient management and reduce mortality.

**REFERENCES**


**SUMMARY**

- Characteristics of the Zygomycetes are best studied by using automated rep-PCR fingerprinting.
- A number of band differences between the isolates as seen in the electropherogram overlay in the figure indicate species discrimination as one group contained all 3 species. The dendrogram showed three clusters within the Rhizopus group, possibly indicating species or strain discrimination. The two clusters within the Rhizopus group, possibly indicating species or strain discrimination. These clusters were found to be closely related to each other and to the morphology-based identification. The BLAST analysis did not allow for convincing species identification within one of the two Rhizopus isolates that had ambiguous results.}

**Figure 1.** Automated rep-PCR process

**Figure 2.** ITS sequence BLAST results

**Figure 3.** Laboratory, sequencing, and rep-PCR identification of Zygomycetes isolates

**Figure 4.** Rep-PCR curve overlay of sample 16 and 17

**Figure 5.** Dendrogram showing similarity based on automated rep-PCR results.