**Clinical and Microbiological Characteristics of patients with *Geotrichum spp.* Isolates: A Five-Year Case Series from a Tertiary Care Center**

**Objectives**

*Geotrichum* species are environmental yeasts that can cause rare invasive infections, particularly in immunocompromised patients. We aimed to characterize the clinical relevance of *Geotrichum* spp. isolates and its microbiological profile over a five-year period.

**Methods & Materials**

Between January 2020 and March 2025, patients with *Geotrichum* species isolates detected in a microbiology lab of a tertiary care internal medicine university hospital in Austria were retrospectively analyzed. Species identification was based on culture and MALDI-TOF mass spectrometry. Clinical records were reviewed for underlying diseases, sites of isolation, serum 1,3-β-D-glucan (BDG) and serum galactomannan (GM) levels, antifungal susceptibility, treatment, and outcomes. Invasive infection was defined as isolation from sterile sites with clinical symptoms.

**Results**  
Five patients were identified (three males, two females; median age 67 years, range 60–77 years). Species were *Geotrichum candidum* (n=3) and *Geotrichum capitatum* (n=2). Underlying conditions included metastatic colorectal cancer including liver metastases (n=2), acute myeloid leukemia (AML, n=1), liver transplantion under immunosuppression (n=1), and chronic pancreatitis (n=1).

Three cases represented invasive infections: *G. candidum* from biliary drainage and superinfected pancreatic walled-off necrosis, and *G. capitatum* from pleural effusion. Two cases were colonization: *G. capitatum* from stool surveillance of an AML patient, and *G. candidum* from biliary drainage fluid during stent exchanges in the liver transplant recipient, both without systemic signs of infection.

BDG was measured in four patients, elevated in two infections (pancreatic necrosis and pleural effusion, 962 and 74.2 pg/mL) and negative in stool colonization and colorectal carcinoma; it was not measured in the biliary colonization case. All serum GM assays (n=3) were negative. In three patients (60%), Geotrichum spp. was recovered in polymicrobial cultures alongside *Candida albicans, Candida krusei, Candida glabrata, Pseudomonas aeruginosa*, and *Enterococcus faecium*.

Antifungal susceptibility testing showed low MICs for amphotericin B (0.25–1 µg/mL), with voriconazole and posaconazole MICs ≤0.5 µg/mL. MIC interpretation remained descriptive, as no clinical breakpoints are established for *Geotrichum* spp. Three patients received targeted antifungal therapy, two with voriconazole and one with delayed anidulafungin due to Candida predominance. Three patients recovered, one died two months after fungal isolation due to abdominal ischemia, and two colonized patients remained clinically stable without antifungal therapy.

A detailed case involved a 65-year-old woman who developed acute-on-chronic necrotizing pancreatitis complicated by hemorrhagic walled-off necrosis and a fistula originating from the colon, extending perisplenically to the pleural space. *G. candidum* was cultured multiple times from CT-guided drainage fluid. BDG was markedly elevated at 962 pg/mL. Antifungal susceptibility showed low minimum inhibitory concentrations (MICs) for amphotericin B (0.5 µg/mL), anidulafungin (0.03 µg/mL), caspofungin (0.25 µg/mL), voriconazole (≤0.008 µg/mL), and posaconazole (0.06 µg/mL). Voriconazole was administered for 35 days, resulting in clinical response.

**Conclusions**  
This case series underscores that *Geotrichum* spp., including *G. candidum* and *G. capitatum*, can cause invasive infections in patients with severe underlying diseases. BDG elevations were inconsistent, and GM negative. Early identification, susceptibility testing, and timely antifungal therapy should be pursued. Current knowledge remains limited, and further studies are needed to refine diagnostic criteria and optimize management for these rare infections.