

P2229 Fungal relevance in pleural fluids and lung biopsies in a tertiary hospital during a 12-year period

Cristian Castelló-Abietar¹, Alicia García Señán², Fátima Abreu-Salinas¹, Amparo Templado-Barroso¹, Maria Isabel Díaz-Zurrón¹, Francisco Carreño-Alonso¹, Esther Díaz-Díaz¹, Fernando Vazquez¹, Teresa Pelaez Garcia¹

¹ Hospital Universitario Central De Asturias, Oviedo, Spain, ² Complejo Asistencial Universitario de Salamanca, Salamanca, Spain

Background: Pulmonary mycoses are difficult to diagnosis due to the isolation of fungi is controversial, so there is a lack of the prevalence of these infections and standard antifungal treatment. Pleural fluid and lung biopsy are reliable samples for the diagnosis of these infections. Our aim was to evaluate the fungal prevalence in pleural fluids and lung biopsies in a tertiary university hospital during a 12-year period.

Materials/methods: Clinical reports of patients with positive pleural fluids and lung biopsies cultures with growth of fungal species from 2007 to 2018 were included in the study. Aseptic sampling of pleural fluids and lung biopsies were performed. The antifungal susceptibility was performed following CLSI's criteria.

Results: During the study period, 5736 primarily sterile specimens from 4224 patients were analyzed. Of them 102 patients with positive fungal growth episodes were registered (51 pleural fluids and 51 lung biopsies). Globally, a total of 112 yeasts (84.2%) were recovered, *Candida albicans* being the species mostly isolated (n= 59, 44.5%), followed by *C. glabrata* (n=19, 14.2%), *C. parapsilosis* (n=12, 9%), *C. krusei* (n=10, 7.5%), *C. tropicalis* (n=2, 1.5%), *C. guilliermondii* (n=2, 1.5%), *S. cerevisiae* (n=2, 1.5%), *Trichosporon* sp (n=2, 1.5%) and other *Candida* sp. (n=4, 3%). Regarding filamentous fungi (n=21, 15.8%), the genus *Aspergillus* stands out (n=12, 9%), with *Aspergillus fumigatus* being most frequent isolated species (n=8, 6%), followed by *A. niger*, *A. flavus*, *A. nidulans* and *A. calidoustus* with one isolated each. Other filamentous fungi were infrequently isolated, including 3 patients with *Mucorales* (n=3, 2.3%).

Mixed co-infections (n=22) were 21.6% of total patients, being yeast-yeast association the most common (n=17, 16.7%) with *C. albicans* + *C. krusei* (n=4, 3.9%), *C. albicans* + *C. glabrata* (n=3, 2.9%) and *C. krusei* + *C. glabrata* (n=3, 2.9%) as the mostly combinations. Yeast-filamentous fungi were more uncommon (n=5, 4.9%).

Conclusions: Pulmonary fungal infection is an infrequent entity, but it should not be underestimated. Our data show that a high percentage of yeasts potentially resistant to fluconazole were recovered, specially in mixed co-infections; and the prevalence of several filamentous fungi with different susceptibility patterns may significantly change therapeutic management.