

P1233 **Combination of invasive aspergillosis and mucormycosis in oncohematological patients: prospective study results**

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Background: The aim of the study was to evaluate demographic parameters, underlying diseases, etiology, treatment and survival rate of hematological patients with invasive aspergillosis (IA) and mucormycosis.

Materials/methods: Prospective study in 2007-2017 yy. For the IA and mucormycosis diagnosis criteria EORTC/MSG (2008) were used.

Results: In our study were included 512 oncohematological patients with IA, and 29 (5%) had a combination of IA with mucormycosis. The median age of patients was 31 years (range 5-65), male and female ratio 2:1, adults - 83%. Main underlying conditions were: acute leukemia – 64%, lymphoma - 21%, chronic leukemia – 6%; myelofibrosis, neuroblastoma and aplastic anemia - 3% each. We identified that the mixed infection significantly often develops in patients after allogeneic transplants of hematopoietic stem cells (52%, $p = 0.001$).

Aspergillus spp. were isolated from 51% of patients. The main etiological agents of IA were *A. fumigatus* - 55%, *A. niger* - 17%, *A. flavus* - 17%, and *A. nidulans* - 11%. Galactomannan test was positive in 62% of patients. Diagnosis of mucormycosis was confirmed by histology and direct microscopy of biopsy samples in all patients. Cultures of clinical materials were positive in 69% cases: *Rhizopus* spp. (45%), *Lichtheimia corymbifera* (20%), *Rhizomucor* spp. (10%), *Rhizomucor pusillus* (10%) и *Mucor* sp. (10%), *Rhizopus stoloniter* (5%).

The main sites of infection were lungs (76%), sinuses (17%), central nervous system (10%), more than two organs were affected in 45% patients. Typical clinical feature of IA and mucormycosis combinations was hemoptysis (24%, $p = 0,008$), CT-signs - lesions with cavities (38%), hydrothorax (29%), and a "reverse halo" symptom (17%).

Antifungal therapy was used in 76% patients: posaconazole predominantly (62%). Combination therapy was used for 41% patients, surgical treatment - 34%. Overall survival at 12 weeks was 38%. An unfavorable prognosis factor was dissemination of mycotic infections ($p = 0.009$).

Conclusions: The main underlying disease in hematological patients with IA and mucormycosis was acute leukemia (64%). The main etiology agents were *A. fumigatus* (55%) and *Rhizopus* spp. (45%).

Antifungal therapy received 76% patients, surgery – 34%. Twelve weeks overall survival was 38%. Disseminated mycosis was an unfavorable prognosis factor.