

**O0568 Invasive pulmonary aspergillosis in patients with haematological malignancies: 272 episodes in 18 years**Galina Klyasova\*<sup>1</sup>, Anna Malchikova<sup>1</sup>, Elena Parovichnikova<sup>1</sup>, Sergei Kravchenko<sup>1</sup>, Valeriy Savchenko<sup>1</sup><sup>1</sup> National Research Center for Hematology, Moscow, Russian Federation**Background:** To evaluate risk factors, diagnostic procedures and treatment outcome of IPA in patients with HM.**Materials/methods:** Prospective study included cases of proven/probable IPA that were identified at National Research Center for Hematology (2000-2017). Episodes of IPA were defined according to EORTC/MSG criteria (2008). A cut-off value of galactomannan (GM)  $\geq 1.0$  in bronchoalveolar lavage (BAL) fluid were considered positive.**Results:** We identified 272 episodes (8 proven, 264 probable) of IPA in 267 patients for 18 years (male 157, female – 110, median age 44(17-81). Relapse of IPA had 6(2%) patients. The main underlying diseases were acute leukemia (48.5%), 32% induction and 19% consolidation phase of chemotherapy, 15% allogeneic HSCT. Dissemination of IPA occurred in 29(10%) cases; neutropenia was in 71%; temperature  $<37.5^{\circ}\text{C}$  was observed in 19.5%. BAL was performed in 82%. Mycology positive tests were as follows *Aspergillus* spp. in 47%, GM in 82% (45% in serum, 23% in BAL, 14% serum and BAL). *Aspergillus fumigatus* represented 36.4% ( $n=47$ ) isolates, followed by *A. flavus* 22.5% ( $n=29$ ), *A. niger* 8.6% ( $n=11$ ) and 32% *Aspergillus* belonged to other species. Concomitant infections were identified in 57% episodes, of them prevailed bacteremia (50.5%) and *Pneumocystis jirovecii* pneumonia (23%). The most common abnormalities on CT during neutropenia were nodules (54%), without neutropenia – non - specific infiltrates (56%) especially in allogeneic recipients. Targeted antifungal therapy for IPA was administered in 267 (98%) episodes. Voriconazole was used in 69% ( $n=186$ ) IPA on first line therapy, of them only 2% ( $n=6$ ) in combination with echinocandins. Only one line of therapy was used in 190 (71%) episodes, a second line therapy due to toxicity or failure of the previous therapy in 77 (29%). On second line therapy combination with echinocandins was in 21% episodes. Twelve-week overall survival was 54%; it was 62% when first-line therapy included voriconazole and 41.9% otherwise ( $p<0.001$ )**Conclusions:** IPA in hematological practice occurred more frequently in patients with acute leukemia (48.5%) and neutropenia (71%). There were some particulars in IPA episodes such as registration in consolidation (19%), presence of temperature  $<37.5$  (19.5%), detection of *Aspergillus* (32%) not belonging to common species, concomitant infections (57%).