Infection included of Prospective (including We found 0, – 0.01, – 44, – 14, – 47, – 59, – 47, – 31, – 25, – 100, – 50, – 755, – 10 and with acute lymphoblastic leukemia (ALL), median age – 43 years (range 21 -68), median 43, females – 44%.

Results

We found that common risk factors before IA development were detected less frequently in patients with MM as compared to ALL, including prolonged neutropenia 45% vs 92% (p=0.01), and lymphocytopenia 27% vs 67% (p = 0.02) (Fig.1).

In both groups, the primary sites of infection were lungs 100 vs 96% (Fig.2).

Probable IA was diagnosed in 96% patients, proven – 4%.

The main pathogens were A. niger (58% vs 22%), A. fumigatus (28% vs 67%) and A. flavus (7% vs 11%) (Fig.3).

We identified significant differences of immunological parameters in MM patients compared to ALL. MM patients were less decreased in the absolute number of CD4 + (0,51 (0.40 – 0.73)*10^9/l vs 0.31 (0.07 – 0.72)*10^9/l), p=0.04; B-cells (0.20 (0.10 – 0.25)*10^9/l vs 0.05 (0.02 – 0.16)*10^9/l), p=0.04; decrease of the induced production of cytokines TNF-α (380 (356 – 497) pg/ml vs 164 (95 – 440) pg/ml), p=0.02; IFN-γ (755 (615 – 1067) pg/ml vs 128 (70 – 795) PG/ml), p=0.01; IL-6 (696 (669 – 720) pg/ml vs 374 (242 – 635) pg/ml), p=0.01 (Fig.4).

The immunoglobulin A production and neutrophils killer activity were significantly higher in MM patients compared with ALL (p=0.08 and p=0.001, respectively).

Conclusions

Significant differences in multiple myeloma patients with invasive aspergillosis were less expressed immunological changes, including prolonged neutropenia, lymphocytopenia, decrease in the absolute number of CD4 +, B-cells, and decrease of the induced production of cytokines compared to ALL-patients. Twelve week overall survival was 100%. Positive prognostic factor of 12th week survival was initial therapy (p = 0.02).