P1779
Paper Poster Session
Clinical epidemiology and host response

Influence of prior invasive aspergillosis on outcome of allogeneic haematopoietic stem cell transplantation

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Background: Introducing a new antifungals and diagnostic procedures has improved prognosis of the invasive aspergillosis (IA) in hematological patients. The number of patients with IA who are candidates for allogeneic hematopoietic stem cell transplantation (allo-HSCT) has increased. The influence of IA on survival rate after allo-HSCT has not been investigated in a prospective study.

Material/methods: In prospective observational single center study from Jan 2012 to Dec 2014 were included 362 patients after allo-HSCT. The median age was 34 y, males – 54%. Most of pts had high-risk acute leukemia (70%). Allo-HSCT with MUD were performed in 57%, MRD – 24%, haplo – 11%, MMUD – 8%, predominantly with RIC (80%). For diagnosis of proven and probable IA and evaluation of response to therapy were used EORTC/MSG 2008 criteria. "Active" invasive IA was IA diagnosed just before allo-HSCT. Median of follow up period was 2 y.

Results: Incidence of IA (probable – 95%, proven – 5%) before allo-HSCT was 20%. The main sites of IA were lungs – 95%, central nervous system – 3%, and colon – 3%. Other sites were observed in a combination with lungs involvement: sinuses – 5%, spleen – 3%, and liver – 3%. The median time from IA to allo-HSCT was 3 months. Antifungal therapy before allo-HSCT was used in 69% pts (voriconazole – 95%, other – 5%) with the median duration of therapy – 2 months. Complete response to antifungal therapy was registered in 19 (26%) patients, partial response or stabilization – 31 (43%), and "active IA" – 22 (31%). After allo-HSCT all patients received antifungal therapy with voriconazole as treatment – 74% or prophylaxis – 26%. Median length of treatment was 166 days with the median duration to effect 99 days. Cumulative incidence of relapse or progression of IA at 2 year after allo-HSCT was 14% (n=10). Progression of underlying disease before D+100 post-transplant was the only risk factor for the relapse or progression of IA after allo-HSCT (6% vs 33%, p=0,007). 100-days OS after allo-HSCT was 77%, 2-year OS after allo-HSCT was 62%. There was no significant difference in OS in patients with or without IA before allo-HSCT (57% vs 65%, p=0,3). Duration of antifungal therapy before HSCT (<90 days *vs* ≥90 days) and status of IA at the moment of HSCT ("active" IA *vs* PR *vs* CR) had no effect on 2-year OS after allo-HSCT in patients with prior IA.

Conclusions: Incidence of proven and probable invasive aspergillosis before allo-HSCT was 20%. Cumulative incidence of relapse or progression of the IA after allo-HSCT was 14% and progression of underlying disease before D+100 post-transplant was the only risk factor. With effective diagnosis, treatment and secondary prophylaxis the IA prior to allo-HSCT did not impair the outcome of the transplantation.