Abstract: P1597

Title: INFECTIOUS COMPLICATIONS AFTER HIGH DOSE CHEMOTHERAPY AND AUTOLOGOUS STEM CELL TRANSPLANTATION: RESULTS OF A RETROSPECTIVE COHORT STUDY

Abstract Type: Poster Presentation

Topic: Infections in hematology (incl. supportive care/therapy)

Background:

Infections represent a significant cause of morbidity after high dose chemotherapy and autologous stem cell transplantation (ASCT). However, only limited data are available on specific infections after ASCT, risk factors for infections and on the efficacy of systemic anti-infective prophylaxis.

Aims:

The aim of the study was to analyze type, frequency and risk factors for infections after ASCT in a large cohort of patients (pts).

Methods:

All pts who underwent ASCT from 01/09 to 02/19 at two academic institutions in Munich, Germany, were included in the study. Records were analyzed with regard to patients' characteristics, therapy, anti-infective prophylaxis and occurrence of infections through day +120.

Results:

Of 388 pts (68% males) included in the study, 275 (71%) had multiple myeloma (MM), 50 (13%) germ cell cancer (GCC), 42 (11%) B-cell non-Hodgkin lymphomas, 12 (3%) Hodgkin lymphoma, and 9 (2%) T-cell lymphomas. The median age was 60 yrs (21-80). Pts with GCC, MM and lymphoma received a median of 2.8, 1.4 and 1 transplant(s), respectively, for a total of 577 ASCT. Chinolone-based antibacterial, PjP-, and antiviral prophylaxis was administered in 454 (85%), 177 (33%), and 112 (21%) of 532 evaluable cases, respectively. Fever of unknown origin (FUO) occurred in 191 (33.1%) and clinically (n=24) / microbiologically (n=187) documented infections in 211 (36.6%) cases. Microbiologically documented infections were of bacterial (N=170, 72.7%) and/or fungal (N=43, 18.4%) and/or viral (N=21, 9%) origin. FUO occurred in 161/454 (35.5%) cases with chinolone prophylaxis as compared to 28/78 (35.9%) without (P=0.63). However, the risk of gram-negative bacteremia was significantly reduced with the use of antibacterial prophylaxis (P<0.05), and in pts without prophylaxis the risk of bacteremia/bacterial pneumonia was significantly increased (OR 2.94, P=0.0007). As compared to conditioning with melphalan or carboplatin/etoposide the use of BEAM or rituximab-BEAM was associated with a significantly increased risk of bacterial pneumomia (OR 12.29, P=0.0009), viral infections (OR 18,2, $P < .05$), and transfer to the ICU (OR 5.2, P <.05). Herpes simplex and varizella zoster infections were diagnosed in 4/78 (5.1%) and 0/78 of pts with acyclovir prophylaxis compared to 12/279 (4.3%) and 3/279 (1.1%) without (P=0.76 and 0.60, respectively). PjP occurred in 3/131 (3.1%) with and in in 6/226 (2.6%) pts without PjP-prophylaxis (P=0.11). A total of 8 pts died of septic shock (N=6), cytomegalovirus pneumonia (N=1), and BOOP (N=1) between day +18 and +77 (2.1% of pts; 1.4% of all ASCT).

Summary/Conclusion:

Around 70% of pts experience infections after ASCT. Antibacterial prophylaxis is associated with a reduced risk of bacteremia and bacterial pneumonia. However, in the present study the risk of HSV/VZV infections or PjP was low regardless of whether antiviral and PjP-prophylaxis was given or not. Patients receiving BEAM conditioning are at highest risk for infectious complications.

Keywords: Autologous peripheral blood stem cell tansplantati, Infection