

Characteristics of Invasive Aspergilosis cases in stem cell transplantation Scenario

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BACKGROUND: Invasive fungal diseases (IFD) are one of the most serious complications in the treatment of hematological malignancies. Filamentous fungi are responsible for the majority of invasive fungal diseases in allogeneic hematopoietic cell transplant (HCT) recipients in the fluconazole prophylaxis era. The risk factors for IA (invasive aspergillus) among recipients of hematopoietic stem cell transplants (HSCT) is a prolonged neutropenia and/or severe immunodeficiency. The incidence rate of IA after allogeneic HSCT may exceed 20% with mortality ranging from 50 to 80%. In the autologous HSCT scenario, the risk of IA is considered low, with incidence ranging from 2 to 6%.

HYPOTHESIS: The aim is to describe major characteristics for IA in autologous and allogeneic hematopoietic stem cell transplantation (HSCT) at AC Camargo Cancer Center HSCT ward.

METHODS: The research was conducted with patients whose IA was classified as probable, meaning galactomannan assay positive (Bronchial alveolar lavage (BAL) or serum) plus CT findings. From January 2014 to April 2015. The reference value for galactomannan used was 1,0 for BAL and 0,5 for serum. All characteristics evaluated were based on risk factors established on literature.

RESULTS: During this study period 140 HSCT was performed (94 autologous HSCT and 46 allogeneic HSCT). 13 IA cases were found, a global prevalence of 8,78%. The prevalence for autologous HSCT was 5,76% and 15,21% for allogeneic HSCT. Most patients were younger than 65 years of age (84,6%), were male (76,9%), Autologous HSCT were the most common among cases(46,15%). The major comorbidity present was diabetes (15,3%). IA cases occurred only in rooms not equipped with HEPA filter (100%). CMV reactivation was present in 38,4% and respiratory virus previous was present in 30,7% of the IA cases. Among individuals with previous viral respiratory infections the most prevalent virus was parainfluenza. After analyzing these findings, portable HEPA filter was placed in the autologous HSCT rooms, since none IA cases was reported.