

N. MORDINI, D. MATTEI, M. GRASSO, C. CASTELLINO, M. PISTONE, E. RAVIOLO, M. BONFERRONI, LONIGRO C., L. VITALI, M.L. CRISTINA *, A. GALLAMINI, C. VISCOLI §,

Divisione di Ematologia Department, S. Croce Hospital, Cuneo Italy.

(§) Istituto Tumori Università di Genova

(*) Istituto di Igiene Università di Genova, Italy

Prevention of Invasive Aspergillosis (IA) in immunocompromised patients by high-efficiency air filtration MedicCleanAir® - devices.

Introduction: IA is still a major problem in patients (pts.) undergoing aggressive chemotherapy: in allogeneic BMT settings it accounts for 10% of TRM.

Material and methods: Between 01/01/2000 and 31/08/2001 we performed 385 ELISA Platelia® tests for Galattomannan (Gal) twice a week in 42 immunocompromised hosts admitted in our non-conditioned, semi-intensive, ward, undergoing allo/autoBMT, or chemotherapy for acute leukaemia. Results were considered positive (confirmed test) in a single patient if at least 2 consecutive positive tests were obtained. Air-borne Aspergillus (Asp.) contamination was monitored for by CFU-C assay in the air, in the dust and on the furniture, before and after the settlement of MedicCleanAir® devices for air filtration. These devices, equipped with high-efficiency filters able to retain particles with a size up to 0.02 micron, were kept in work throughout 24 hour, one for every single bed room, starting on 08/12/2000. All the febrile patients entered a program of weekly chest CT scans, and if they fitted EORTC criteria for proven or probable IA, entered a targeted therapy with Amphotericin deoxycholate or liposomal (L-Amb).

Results: In 2000 Gal assay was positive in 18 out of 193 blood tests, for 5 confirmed tests in 5 (2 proven en 3 probable IA) out of 23 pts; in 2001 there were 8 single positive out of 192 tests, with no positive confirmed tests and no patient out of 19 developed IA. Air room Asp. survey performed on 01/08/2000 revealed 1 colony/2m³ of air, 140 colonies/m²/h in the dust and 51/m²/h in the furniture. Similar surveys performed in the same clinical ward rooms one year later (on day 22/01 and 19/09/2001) revealed respectively 6 and 0 Asp. colonies /9m³ in the air, 0/m²/h in the dust both on 22/01 and 19/09/2001, and 8,1 and 3/m²/h on the furniture. During 2000, 5 pts were treated with L-Amb, while in the following year no single pat was treated; the fungal TRM was 13% (3/23) in 2000 and 0 (0/19) in 2001.

Conclusions: the use of MedicCleanAir® Devices dramatically reduced the incidence of IA as shown by a triparametric (clinical, laboratory and microbiological) survey.

Bone Marrow Transplantation 29, (2) 2002 – p. 5245 N° P852