

EV0441

ePoster Viewing

Clinical ID: infection in the immunocompromised host and transplant recipients

The role of bronchoalveolar lavage (BAL) in the microbiological diagnosis of pneumonia in patients with haematological malignancies (HM)

G. Klyasova¹, A. Gracheva¹, I. Frolova¹, V. Okhmat¹, A. Korobova¹, V. Makhinya¹

¹National Research Center for Haematology, Moscow, Russia

Objectives. Pulmonary complications are a major clinical problem in patients (pts) with HM. The etiology of pulmonary infiltrates in these pts is diverse. The goal of this study was to evaluate the yield and utility of BAL in microbiological diagnosis of pneumonia.

Methods. The retrospective study was undertaken from January 2009 to December 2013. BAL was performed within 1-3 days after the finding of pulmonary infiltrates on CT scan. Samples were processed according to standard procedures (Gram-, Ziehl-Neelsen-, Calcofluor microscopic examination; getting of aerobic and fungal cultures). Detection of *Pneumocystis jirovecii* (PCP) was performed by immunofluorescence microscopic examination. Microbiological findings were classified as contamination or colonization when coagulase-negative *Staphylococcus*, viridans group *Streptococci*, *Enterococcus faecium*, *Candida* spp. were found. Viral infection was not evaluated in this study.

Results. The diagnostic yield of 1320 BAL specimens from 734 febrile pts (374- men, 360-female) were evaluated. Median of age was 52 (16-90). Pts had following HM: non Hodgkin disease 24%, acute myeloid leukemia 20%, multiple myeloma 13%, acute lymphoid leukemia 10%, Hodgkin disease 9%, myelodysplastic syndrome 4%, chronic lymphoid leukemia 4%, aplastic anemia 4%, other 12%. 910 BAL was performed as first BAL (primary BAL) by the appearance of pneumonia and 410 BAL were done repeatedly (secondary BAL) by the same pneumonia. Secondary BALs were obtained in 62% pts of ICU. In table utility of first (primary) and repeated (secondary) BAL fluids are presented. The main bacteria in BAL are *A.baumannii* 28%, *P.aeruginosa* 20%, *K. pneumonia* 16%, *S.aureus* 12%, *S.maltophilia* 10%. PCP was in 9% of BAL, mycobacteria in 2 pts.

	Primary BAL n=910 (%)	Secondary BAL n=410 (%)	Total n=1320 (%)
Diagnostic yield BAL	213 (23)	174 (42)	387 (29)
Gram (-) bacteria	186/214 (87)	179/186 (96)	365/400 (91)
Gram (+) bacteria	28/214 (13)	7/186 (4)	35/400 (9)
Mold	57 (6)	35 (8,5)	93 (7)
BAL negative	447 (49)	119 (29)	566 (43)
BAL colonization	250 (27)	117 (28,5)	367 (28)

Conclusion. This study underlines the rather low diagnostic yield of BAL for infections diagnosis in pts with HM.