

Acinetobacter baumannii surveillance measures in haematological malignancies patients

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BACKGROUND

Acinetobacter baumannii (AB) is a gram-negative, strictly aerobic, nonfermentative coccobacillus that causes infections in immunocompromised and chronically ill patients. AB is associated with multidrug resistance and it is considered among the most difficult antimicrobial-resistant bacilli to control and treat. It is therefore necessary the development of measures that can prevent or early identify *Acinetobacter* infection.

OBJECTIVES

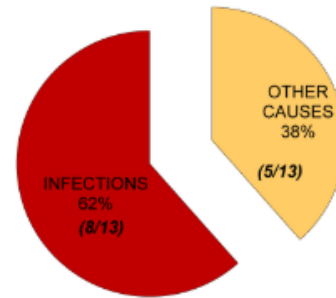
There are only few reports on *Acinetobacter* infection and measures to prevent and treat the bacillus spread and infection in patients affected by haematological malignancies. Here we describe our experience for early detection and prophylaxis of AB.

MATERIALS & METHODS

Between January 2014 and December 2014 microbiological surveillance with pharyngeal swabs was performed to all patients on admission and whenever an *A. Baumannii* bacteriemia was detected during hospitalization; also on september 2014 we decided to begin a random surveillance during recovery and a set of pharyngeal swabs was performed to all hospitalized patients. In December 2014, 2 cases of MRD *A. Baumannii* bacteriemia were detected and surveillance with pharyngeal swabs was performed to all hospitalized patient.

RESULTS

CAUSES OF DEATH IN THE HEMATOLOGY SECTION OF CATANIA IN THE YEAR 2014 *



25% of these patients died for *Acinetobacter baumannii* bacteremia after 24-48 h of pharyngeal swab positivity

*Total number of patients admitted in the hematology section of Catania in 2014: 142;

Seven swabs were positive for *A. Baumannii*, all in heavily treated and advanced stage patients (3 AML patients, 1 MM, 2 CLL, 1 LNH); the first three colonizations were detected on September 2014 in patients that subsequently died for progression of disease or for infection other than MDR *A. Baumannii*; two consecutive colonizations were detected in patient who after died of MDR *A. Baumannii* sepsis. The last two patients with positive surveillance for *A. Baumannii* underwent to prophylaxis with daily aerosolized Colistin in order to eradicate bacterium from the respiratory tract, and this treatment resulted in avoidance of bacteremia. After two weeks of treatment pharyngeal swabs became negative.

Characteristics of patients submitted to serial pharyngeal swabs

	Surveillance negative for <i>A. Baumannii</i> (17 pts)	Surveillance positive for <i>A. Baumannii</i> (7 pts)
Age stratifications		
<60	12	4
>60	5	3
Sex		
Male	5	3
Female	12	4
Disease		
AML	13	3
ALL	2	0
LNH	1	1
MM	0	1
CLL	0	2
AA	1	0
Chemotherapy		
Induction	6	1
Consolidation	4	1
Salvage	4	4
Complication	3	1
MASCC score		
≥21	9	1
<21	8	6

CONCLUSIONS

In conclusion AB colonization is difficult to manage in immunocompromised patients and it can result in fatal infection during neutropenia. An appropriate swabs surveillance, application of stringent infection monitoring and prophylaxis is therefore mandatory.

To the best of our knowledge, microbiological screening and prophylactic aerosolized Colistin in oncohematological patients with AB colonization of upper respiratory tract were never described.

Moreover, microbiological surveillance could be used not only for cohorting patients but also as a signature marker for subsequent clinical infections.

In our experience early treatment with aerosolized Colistin for the eradication of MDRAB colonization in the respiratory tract was successful as prophylaxis.

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