THE EFFECTIVENESS OF CHEMOPROPHYLAXIS INTRODUCTION IN ACUTE LEUKEMIA MANAGEMENT IN ARMENIA

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Abstract

Antimicrobial resistance is an emerging problem in communities with frequent non-prescription use of antibiotics (Morgan et al., 2011), which may affect the efficacy of anti-infective prophylaxis in developing countries. Moreover, patient management in the general wards (Biswal and Godnaik, 2013) may further impact on the risk of infectious complications. Frequent over-the-counter use of antibiotics (Hovhannisyan et al., 2007), patient treatment in common wards and unjustified fluconazole prophylaxis for uncomplicated infections are observed in Armenian population.

Table 1. Clinical characteristics of study participants

	Prophylaxis	Non-prophylaxis
Number of patients	12(60%)	8(40%)
Mean age (year; SD)	52.75 (12.4)	51.0 (12.8)
Sex (male/female)	4/8	7/1
AML/ALL	7/5	6/2
Blast (%); mean/SD	77.7/12.6	71.4/25.5
Hemoglobin (g/L) mean/SD	78.0/34.3	89.7/22.9

Objective

The aim of this study is to evaluate the effectiveness of the triple anti-infective prophylaxis (antibacterial, antiviral and antifungal) on the frequency of febrile neutropenia, infectious-related complications, hospitalization and mortality in patients with acute leukemia. Here we present the preliminary data of this ongoing study.

Materials & Methods

In this abstract we present the preliminary data of the retrospective case-control study where we compare the infection episodes, febrile neutropenia episodes and durations, and the hospital stay length between the adult patients receiving triple anti-infective prophylaxis upon the diagnosis of acute leukemia and patients receiving anti-infective prophylaxis only when absolute neutrophil count was $< 500/\mu\text{L}$. Triple anti-infective prophylaxis was officially introduced in Hematology Center after prof. Yeolyan started from January 2017 and mostly is composed of Levofloxacin, Fluconazole and Acyclovir regimen. The results of twelve patients in prophylaxis arm is compared with eight patients from non-prophylaxis arm, clinical parameters at the diagnosis is presented in table 1. Fisher exact test was used to compare the rates of febrile neutropenia and infection episodes. Mann-Whitney U test was used to compare the hospital stay length between patients receiving anti-infective prophylaxis and not receiving anti-infective prophylaxis.

Summary

Febrile neutropenia episodes were registered in 40.0% (4/10) of patients in prophylaxis arm and 71.4% (5/7) in non-prophylaxis arm ($p= 0.33$). None of the patients in prophylaxis arm (0/10) suffered from infectious complications, while 4/7 patients in non-prophylaxis arm had at least one episode of detected infection ($p= 0.02$). The median (interquartile ranges) duration of hospitalization was 14.0 (10.0 - 26.5) days in prophylaxis and 14.0 (9.25 - 36.5) days in non-prophylaxis ($p= 0.86$) arm.

Discussion

Our preliminary data suggest that the introduction of triple anti-infective prophylaxis decreased the infection episodes, neutropenia rate and hospital stay length, however febrile neutropenia still remains high compared to the published international data.

References

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