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SPECTRUM OF BACTERIA ISOLATED FROM BLOOD CULTURES OF PATIENTS WITH LEUKEMIA IN ARMENIA

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INTRODUCTION

Bloodstream infections (BSIs) pose a significant threat to patients with hematological malignancies, such as leukemia. These patients are particularly vulnerable to infections due to their immunocompromised status, resulting from both the disease and its treatment, including hematopoietic stem cell transplantation. BSIs are laboratory confirmed isolates of at least one pathogen from blood samples[1].

AIM

The aims of this study were to estimate incidence of BSIs and to reveal microbial spectrum of BSIs in patients with leukemia in Armenia

METHOD

We investigated the data of BSIs diagnosed

- during the period from January 2021 to December 2023.
- Peripheral blood culture was performed in both aerobic and anaerobic blood culture bottles (10 mL in each bottle)[2].
- All CoNS isolates were double confirmed.

RESULTS

From 871 febrile cases,

- ❖ 219 (25%) blood cultures were positive.

Among them,

- ❖ 76% were Gram positive bacteria (CoNS 45.6%, *Enterococcus* spp. 15.7%, *Staphylococcus aureus* 7.26%, viridans group Streptococci 3.82%, *Streptococcus pneumoniae* 3.2%) (Fig. 1; 2)
- ❖ 20% were Gram negative bacteria (*Escherichia coli* 8%, *Enterobacter cloacae* 4%, *Bacteroides* 1.5% (Fig.3),

other Gram negative bacteria:

- *Pseudomonas aeruginosa*,
- *Acinetobacter* spp., and
- *Klebsiella* spp. 6.5%) and
- 4% fungi.

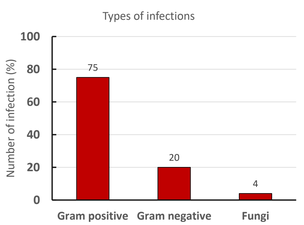


Fig.1 Types of BSI isolated from blood cultures.Analaysis were performed by Bact Alert 3D in aerobic and anaerobic bottles.10 mll blood in each sample for adults and up to 4 mill for children

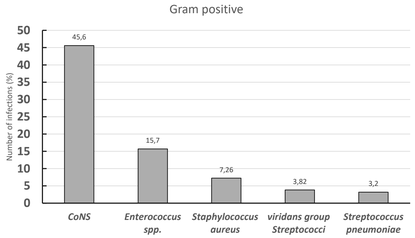


Fig.2 Types of Gram positive BSI isolated from blood cultures. Analysis were performed by Bact Alert 3D in aerobic and anaerobic bottles. 10 mll blood in each sample for adults and up to 4 mill for children

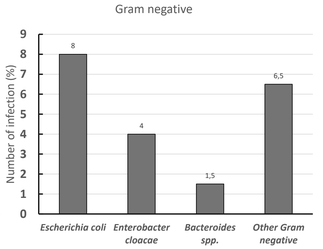


Fig.3. Types of Gram negative BSI isolated from blood cultures. Analysis were performed by Bact Alert 3D in aerobic and anaerobic bottles.10 mll blood in each sample for adults and up to 4 mill for children.

Other Gram negative include ***Pseudomonas aeruginosa, Acinetobacter*** **spp., and** ***Klebsiella*** **spp.**

CONCLUSIONS

The incidence of positive cases was 0.25. The most common isolates were CoNS, *Enterococci* and *E. coli*. These results will help clinicians to estimate epidemiology of BSIs and to manage risk factors of BSIs during chemotherapy courses.

REFERENCES

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