Bacterial infections in acute myeloid leukemia pediatric patients receiving ciprofloxacin prophylaxis

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INTRODUCTION

In our institution, pediatric patients with acute myeloid leukemia (AML) are treated per St. Jude AML-02 protocol. According to this protocol, ciprofloxacin and vancomycin are administered as prophylaxis during neutropenia. However, due to the low incidence of Gram-positive bacterial infections at our institution, we modified the protocol by removing vancomycin and giving only ciprofloxacin for prophylaxis.

OBJECTIVES

To describe the incidence and type of bacterial infections associated with ciprofloxacin prophylaxis.

METHODS

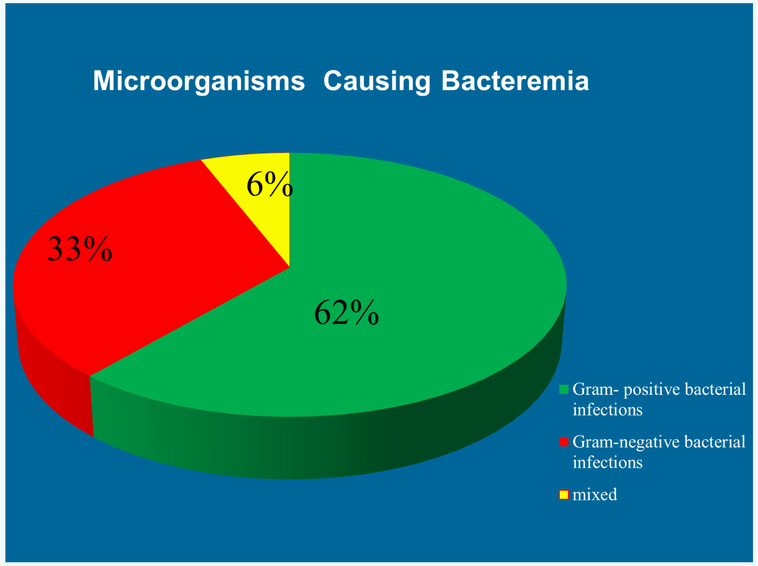
The leukemia database was utilized to identify all AML pediatric patients who received AML-02 protocol between 2011 and 2015. The medical records were reviewed for any positive cultures from the initiation of the protocol until death or protocol discontinuation..

Patient demographics, type of infections, type of isolated bacteria, and intensive care unit(ICU) admissions were recorded

RESULTS

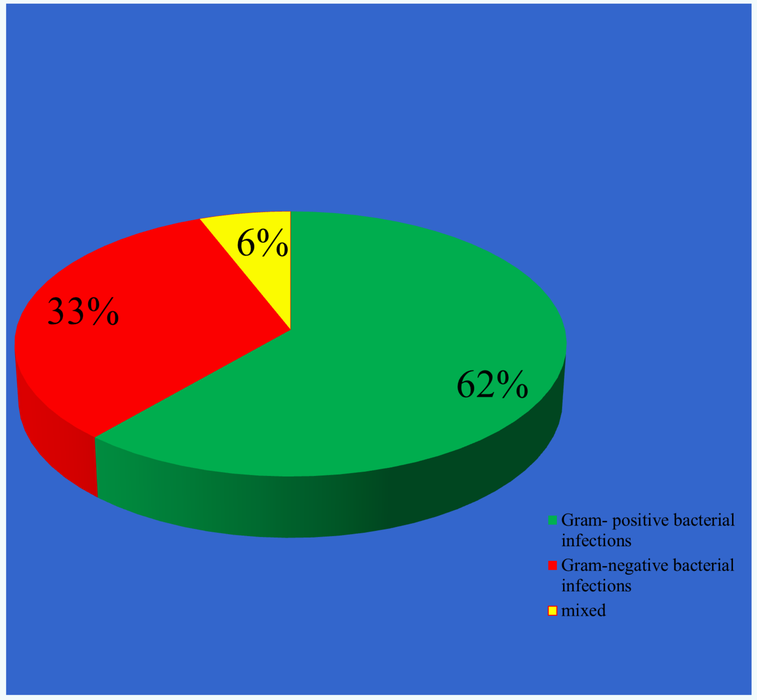
- Fifty patients were evaluated, median age of 8 years (range, 1-21 years).
- We identified 77 episodes of bacterial infections in 42(84%) patients.
- Among those bacterial infections, 73 episodes were with bacteremia and included 45(62%) Gram-positive bacterial infections, 24(33%) Gram-negative bacterial infections and 4(6%) mixed Gram-negative and positive bacterial infections.
- Coagulase-negative staphylococcus and Viridans streptococci were the most commonly isolated bacteria in 36% and 30% of the episodes, respectively.
- ICU admission was required for 31 patients, 21(68%) of whom had bacteremia.

RESULTS



CONCLUSION

A high rate of gram-positive bacterial infections was detected in our patients and a significant number of ICU admissions were required with the ciprofloxacin prophylaxis. Vancomycin prophylaxis may be necessary to decrease the incidence of Gram-positive bacterial infections and its associated complications.


6%
33%
62%
Gram- positive bacterial infections
Gram-negative bacterial infections
mixed