

Abstract Submission Title

Sources of infection and bloodstream isolates in patients with acute leukemia: experience in a university hospital.

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Objective: To identify sources of fever and the type of pathogens that cause bloodstream infection (BSI) in patients with acute leukemia (AL) and febrile neutropenia (FN) post cytotoxic chemotherapy.

Methods: Retrospective observational study. All patients with AL (myeloid and lymphoid) and FN (absolute neutrophil count of $<500/\text{mm}^3$) consecutively hospitalized between June 2010 and December 2019 were included. The package Infostat 2014 program was used for statistical analysis.

Results: 460 episodes of FN (in 192 patients) were evaluated, 157 BSI were documented (34.13%), including 14 (8.91%) episodes polymicrobial bacteremia. Mean age 38.2 years. Male sex 58.91%. ALL 51.03% AML 48.69%. Mortality rate 11.38%. Relapse of hematological malignancy 18.91%. Prior hospitalization last 30 days 55.21%. Antibiotic use last 30 days 32.17%. Neutropenia >7 days 77.82%. Use of central venous catheter 34.13%. Gram-negative bacteria (GNB) were found in 133 isolates (61.86%), *Klebsiella pneumoniae* 44.36% (ESBL 37.28%) y *Escherichia coli* 33.83% (ESBL 11.11%) were the most frequent organisms. Gram-positive bacteria were found in 81 isolates (37.67%) CNS 43.20% and *Staphylococcus aureus* 33.33% were common. Abdominal (12.82%), respiratory (10.65%) and central venous catheter (CVC) infection (9.56%) were the most common sources. Neutropenia >7 days (OR, 5.59; 95% CI, 2.72-11.49 $p < 0.0001$), platelets $<20000/\text{mm}^3$ (OR, 2.95; 95% CI, 1.39-6.26 $p < 0.004$), BSI (OR, 5.01; 95% CI, 2.35-10.67 $p < 0.0001$) and abdominal source (OR, 2.83; 95% CI, 1.26-6.32 $p < 0.01$) were associated with higher mortality.

Conclusions: Infections remain important causes of fever, and a cause of morbidity and mortality, in leukemic patients receiving cytotoxic chemotherapy. In our report GNB, *Klebsiella pneumoniae* and *Escherichia coli*, remain the most common bacteria. The integumental surfaces (abdominal and respiratory) and CVC being involved in the majority of cases. Mortality in patients with neutropenia >7 days, lower level of platelets, BSI and abdominal source were associated with higher mortality.