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ELEVENTH ANNUAL MEETING

Infectious Complications in Acute Myeloid Leukemia (AML) Patients Undergoing Induction Chemotherapy with Fludarabine/Cladribine, Cytarabine, and Idarubicin (FIA/CLIA): A Single-Center Retrospective Study

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CONTEXT

Triplet induction chemotherapy using purine analogues (fludarabine/cladribine) in combination with cytarabine and idarubicin (FIA/CLIA) is believed to be superior to the standard 7+3 regimen but carries a higher risk of infectious complications due to prolonged myelosuppression

OBJECTIVE

Evaluate infectious complications in AML patients treated with FIA/CLIA at our institution

DESIGN

Retrospective review of AML patients treated with FIA/CLIA at Memorial Hermann Hospital, Texas Medical Center, from January 1, 2013, to June 30, 2022

SETTING

General community, academic hospital setting

PATIENTS /PARTICIPANTS

Adults with AML treated with FIA/CLIA

MAIN OUTCOME MEASURES

Infectious complications and related mortality

RESULTS

Among 48 AML patients who were fit for standard induction therapy, 44 received 5 days of standard FIA/CLIA, and 4 patients received 3–4 days of FIA due to age and comorbidities. All patients received antimicrobial prophylaxis with levofloxacin, famciclovir, or valacyclovir. Fluconazole was initially used for antifungal prophylaxis at our institution and was later switched to voriconazole in 2021.

Median age	48.4 years (range 32-76)
Race	white (n=18), African American (n=10), Hispanic (n=9), Asian (n=5), and others (n=6)
Adverse events	Febrile neutropenia (31, 64.5%), Bacteremia (15, 31.2%)

Infectious complications	Number of patients
pneumonia	6
Colitis\typhilitis	3
Vulvar cellulitis	2
Prostatic abcess	1
Dental abcess	1
Perirectal abcess	1
ICU admission/sepsis-related complications	7
Death/septic shock/multiorgan failure	3 (6.25%)

Bacterial pathogens	Number of patients
coagulase negative Staphylococcus aureus	5
alpha streptococcus	5
methicillin-sensitive S. aureus	1
methicillin-resistant S. aureus	1
Pseudomonas aeruginosa	2
extended-spectrum beta lactamase Escherichia coli	2
Stenotrophomonas maltophila	1

Viral pathogens	Number of patients
respiratory syncytial virus	2
COVID-19	1
influenza A	1
cytomegalovirus	1

Fungal pathogens	Number of patients
candidemia	1
Invasive fungal pneumonia	2

CONCLUSIONS

Infectious complications continue to be a major challenge during AML induction therapy. Excellent supportive care and antimicrobial prophylaxis can significantly improve outcomes and decrease infection-related mortality particularly in academic centers. The 30-day induction mortality in non-academic centers is about 30% which is reduced to 6-9% in an academic center with a higher CR around 85% with the FIA/CLIA regimen compared to '7+3' regimen (which historically is around 60%)

REFERENCES

Rios A et al. Induction mortality (IM) of acute myeloid leukemia (AML) patients treated with purine analogues-cytarabine-anthracycline at a general hospital. Journal of Clinical Oncology 40, no. 16_suppl (June 01, 2022) e19019-e19019.

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