Preliminary Investigation on the Use of Doxorubicin Plus Low Dose Cytarabine with GCSF as Induction Therapy in De Novo Acute Myelogenous Leukemia among Pediatric Patients Treated at the Philippine Children's Medical Center (PCMC)

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INTRODUCTION

Treatment outcomes for children with AML has improved substantially with the use of intensified induction chemotherapy and improved supportive care, however, intensive induction therapy is associated with life-threatening complications. In LMICs, challenges brought about by the pandemic necessitated the use of a less intensive induction regimen. This study aimed to determine the effectiveness and tolerability of doxorubicin plus low dose cytarabine/GCSF as induction chemotherapy among children with de novo AML treated at the Philippine Children's Medical Center from July 2021 to 2022.

METHODOLOGY

This study prospectively enrolled newly diagnosed AML patients. A regimen containing doxorubicin plus low dose cytarabine and G-CSF was given as 2 courses of induction therapy. The rate of remission and adverse events were reported.

RESULTS

Twenty one (21) patients were diagnosed with AML during the study period. Eighteen (18) fulfilled the inclusion criteria. After induction course I, 55% (10/18) patients achieved remission and 7 of 15 (46.7%) patients who received the second induction course attained sustained remission. Grade 3-4 thrombocytopenia and myelosuppression were reported in all patients who received the first induction course. There were three (3) toxic deaths, two from neutropenic sepsis and one from intracranial bleeding. The cohort of non-responders were older (11.6 years vs 9.7 years) bleed and had higher initial WBC count (59.6 x 109/L vs 30.9 x 109/L). Over-all remission rate after 2 courses of LDC/G-CSF was 38.9% (7/18). None of the patients in this study abandoned treatment.

CONCLUSION

In this preliminary study, LDC/G-CSF regimen induced remission in AML patients with lower initial WBC count. However, this needs to be validated in future studies with a bigger sample population.

KEYWORDS

AML, LOW DOSE CHEMOTHERAPY/G-CSF