

## EVOLVING PROFILE OF CHILDHOOD LEUKAEMIA AT KAMUZU CENTRAL HOSPITAL. LILONGWE

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#### BACKGROUND

- Leukaemia is the most common childhood cancer worldwide.
- The epidemiology and spectrum of childhood leukaemia in Sub-Saharan African countries is poorly understood.
- It's widely believed and reported that childhood leukaemia is comparatively rare in Malawi.
- Under-diagnosis and lack of effective cancer registries may understate the significance and prevalence of childhood leukaemia in Malawi and SSA.
- We describe the spectrum and relative contribution of Leukaemia to the paediatric cancer burden at Kamuzu Central Hospital (KCH), Lilongwe

- 33 new cases of childhood leukaemia at KCH.
- Leukaemia accounted for 19% of all new cancer diagnoses- fig 1
- 17 (52%) were acute lymphoblastic leukaemia (ALL), Splenomegaly: 69% 11(33%) acute myeloid leukaemia.(AML), 3 (9%) acute promyelocytic leukaemia (APL), 3 (9%) Burkitts - Lymphadenopathy: 43% leukaemia (BL) and 2 (6%) cases of BCR-ABL positive chronic myeloid leukaemia (CML)



The median age was 9.5 years (range 1.8 -15.4)(Fig. 3). 17 were male (51%)



### HAEMATOLOGICAL CHARACTERISTICS (Fig. 4)

Median WCC: 66 X10<sup>6</sup>/L (range 0.74-720)

Median haemoglobin: 56g/L(range 29-119)

Median platelet count: 13X109/L (range 3-107)



# RESULTS

### CLINICAL FEATURES

- Median presentation: 4 weeks (range 1-16)
- Fatigue:78%
- Fever: 60%
- Bleeding: 39%
- Bone pain:25%
- Proptosis: 20%
- Mediastinal masses: 15%



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### POST INDUCTION OUTCOMES



- CR rate for AML/APL 28 day survivors: 100%
- 28 day Mortality due to: Infection 6/13 (46%), bleeding 3/13 (23%), upper airway obstruction 2/13 (15%), unexplained 2/13 (15%)

### CONCLUSIONS

- Leukaemia contributes significantly to the childhood cancer burden in Malawi.
- A disproportionate rate of 'non precursor ALL' leukaemia was observed
- The majority of children treated for ALL survived and achieved 28 day CR, presenting an opportunity for longer term survival as a treatment goal.
- CR can be achieved for some children with AML in Malawi.

**METHODS** 

- A retrospective data review of all new cases of childhood leukaemia diagnosed at KCH from 15<sup>th</sup> July 2015 to 31<sup>st</sup> August 2016.
- Leukaemia was defined by the presence of ≥ 25% blasts in the bone marrow, referencing the 2008 WHO criteria.
- For 27/33 cases, morphology was the only modality for classification.
- Immunophenotyping was used to characterise 4 cases (2 T cell lymphoblastic leukaemia + 2 Burkitts leukaemia/ALL-L3).
- BCR-ABL status was assessed for the two cases of chronic myeloid leukaemia.
- Diagnosis was assigned by an accredited paediatric haematologist.
- Data was collected on the demographics, baseline clinical and haematological features, and 28 day survival.

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