

DEDICATION

I dedicate this work to my father Mr Reuben Mbinga Luneta, my mother Mrs Doreen Mahongo Mikosa Luneta for their dedication, and sacrifice in ensuring that my brothers and sisters and I got the best education they could afford.

Without them I wouldn't be who I am today.

To my beloved wife Phyllis and my wonderful children Daniel and Elijah I say thank you for your support and encouragement, and for enduring long hours of my absence from home.

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DECLARATION

I hereby declare that this dissertation represents my own work and has not been presented either wholly or in part for a degree in the University of Zambia or any other University.

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APPROVAL

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Mbinga L Mbinga

ABSTRACT

Background

Sickle cell anaemia is an important cause of morbidity and mortality among Zambian children, with a carrier frequency ranging from 6% – 27%. Infections are the most common cause of mortality among sickle cell children aged between one to five years, accounting for about 30% of the mortalities. The objective of the study was to examine the current pattern of bacteraemia among Zambian sickle cell anaemia children presenting with fever at the University teaching hospital.

Methods

The study was undertaken at the paediatric department of the University Teaching Hospital with a descriptive cross sectional approach. I undertook blood and urine cultures on all sickle cell anaemia patients younger than 15yrs with fever of 38°C and above, admitted to the UTH during the period April 2009 to November 2009.

Results

Out of 199 sickle cell anaemia children admitted during the study period, 55 of them had fever of 38°C or more, accounting for 27.6% of the sickle cell admissions. The mean age of participants was 7.5years. Over 50% of the patients were aged between one and five years with a male to female ratio of 1.2:1. The majority of the patients (56.4%) came from high density residential areas. Vaso-occlusive crisis was the most common diagnosis on admission, accounting for 63%, followed by pneumonia (12.7%). 38.7% of the participants reported antibiotic use prior to presentation to hospital. The most common antibiotic used was amoxicillin (60%), followed by chloramphenicol (15%).

About 10% of the participants had confirmed bacterial infection on culture. 7.3% of the infections were due to urinary tract infection whereas 1.8% had bacteraemia. The organisms isolated included escherichia coli, citrobacter diversus, enterobacter aerogens and streptococcus species. The organisms were susceptible to Cefotaxime and Norfloxacin, Penicillin and Nalidixic acid.

Another 5.5% of the patients had clinical, laboratory and radiological evidence strongly suggestive of bacterial infection.

Conclusion

The proportion of bacterial infections among sickle cell anaemia with fever in this study was about 10%, with bacteraemia accounting for 1.8% of the study participants.

ACRONYMS

SCD Sickle cell disease

SCA Sickle cell anaemia

HbS Sickle haemoglobin

WHO World Health Organisation

HbF Fetal haemoglobin

UTH University Teaching Hospital

EDTA Ethylenediaminetetraacetic acid