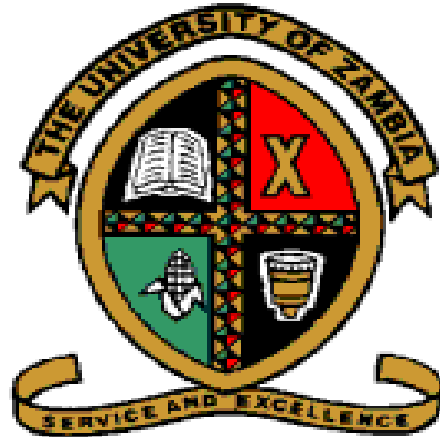


THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE



OCCURRENCE OF ADVERSE HEMATOLOGICAL EVENTS AT ONE AND SIX WEEKS IN INFANTS FOLLOWING PERINATAL EXPOSURE TO ANTIRETROVIRAL DRUGS FOR THE PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV AT UTH.

BY

DR MUSAKU MWENECHANYA

A DISSERTATION SUBMITTED IN PARTIAL FUFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTERS OF MEDICINE IN PAEDIATRICS AND CHILD HEALTH

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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 at the University of Zambia or any other University.

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APPROVAL

This dissertation of Dr Musaku Mwenechanya has been approved as fulfilling the requirement of the award of the Degree of Master of Medicine in Paediatrics and Child Health by the University of Zambia

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Date: _____

Name: _____

Signature: _____

Date: _____

DEDICATIONS

To my lovely wife Mpande whose patience and understanding while I took time to do this, provided me with strength to put this together.

To my son Chuya, the light and driving force behind everything I do. All this is for you.

To my parents ,whose support for my education has been unchanged from the very beginning.

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Extra special thanks to Vanderbilt University for providing the financial support so desperately needed to enable this research take off

To the mothers who willingly brought their babies to participate in the study. You made it a success!

ABBREVIATIONS AND ACRONYMS

3TC	-	Lamuvudine
ART	-	Antiretroviral Therapy
AIDC	-	Adult Infectious Diseases Centre
AZT	-	Azidothymidine
HAART	-	Highly Active Anti-retroviral Therapy
HIV	-	Human Immunodeficiency virus
MOH	-	Ministry of Health
MTCT	-	Mother to Child Transmission
NRTI	-	Nucleoside Reverse Transcriptase Inhibitor
NNRTI	-	Non- Nucleoside Reverse Transcriptase Inhibitor
NVP	-	Niverapine
PMTCT	-	Prevention of Mother to Child transmission
PACTG	-	Paediatric Aids Clinical Trial Group
PI	-	Protease Inhibitor
WHO	-	World Health Organisation
RPR	-	Rapid Plasma Reagent

Definitions

HAART - In this study defined as ‘use of two NRTI + one NNRTI

Adverse Hematological events - determined by comparing values obtained to defined normal

Abstract

Perinatal transmission of Human Immunodeficiency Virus (HIV) from mother to her new born can be prevented in most cases using a combination of Antiretroviral drugs reducing the risk to less than one percent(1%). However despite the beneficial effects of these drugs, maternal-fetal transfer of these potentially toxic drugs during pregnancy is of increasing concern. Among other concerns, of note is adverse hematological events both in the short and long term and this remains largely unknown with contradictory findings in the few studies done

The aim of this study was to document the short term hematological outcomes at one week and six weeks in infants perinatally exposed to Antiretroviral Drugs used for the prevention of Mother to Child Transmission of HIV at UTH.

One hundred and thirty-nine HIV exposed but uninfected infants as ,confirmed by DNA/PCR at six weeks, were prospectively followed up until six weeks of age. Perinatal transmission prophylaxis regimens comprised Zidovidine(AZT) based regimens and non-AZT based regimens. Blood counts and differentials were determined at one and six weeks and adverse hematological events were documented and compared with documented normal values. The main focus was to document hemoglobin, absolute neutrophil and platelet count indices at one and six weeks. Data was further analysed according whether maternal prophylaxis included AZT or another nucleoside reverse transcriptase inhibitor.

The proportion of infants that were found to have anaemia was 13.5% at one week and this increased to 20.3% at 6weeks .This study found 13.5% and 21.3% of infants developed neutropenia at one and six weeks respectively and 0.06 and 0.1% of infants developed thrombocytopenia at one and six weeks respectively in preterm babies. In term babies the proportion of neutropenia increased from 13.5% at one week to 24.1% at six weeks while the proportion of thrombocytopenia reduced from 4.1% at one week to 3.5% at six weeks

This study shows that a significant proportion of infants developed anaemia and neutropenia following prenatal and postnatal exposure to antiretroviral drugs. However, the proportion was less so with thrombocytopenia.