

# The role of medical and social history in addressing relative contraindications to antiretroviral medications

MM Kabue DrPH<sup>1</sup>, JM Risser PhD<sup>2</sup> & RM Grimes PhD<sup>2</sup>

1. Baylor College of Medicine International Paediatric AIDS Initiative  
2. The University of Texas School of Public Health  
Corresponding author: M.M. Kabue; mkabue@bcm.edu

Human immunodeficiency virus (HIV) infection is a major public health problem especially in Sub-Saharan Africa.<sup>1</sup> Many resource poor prefer a “public health approach” focusing on one standardized first-line antiretroviral therapy (ART) regimen that may not fit all patients. Adherence to the ARVs is key to ensuring success in ART and preventing emergence of drug resistant HIV strains.<sup>2</sup> While use of antiretrovirals (ARVs) presents many challenges to clinicians and patients alike, the role of medical and social history in addressing potential contraindications to ARVs has not been fully examined.

A cross-sectional, descriptive study that utilized self-administered questionnaire responses from 100 systematically selected patients at a public HIV clinic (Northwest Clinic; facility serving low-income patients in Houston, United States),<sup>3</sup> was done in 2004. The aim was to determine how often potential contraindications are encountered to ARVs recommended to initiate ART, based on medical and social/lifestyle history. Six ART regimens recommended by the US Department of Health and Human Services in 2005,<sup>4</sup> were examined. The regimens are: 1) Efavirenz, Lamivudine & Zidovudine, 2) Efavirenz, Lamivudine & Tenofovir DF, 3) Efavirenz, Emtricitabine & Zidovudine, 4) Efavirenz, Emtricitabine & Tenofovir DF, 5) Kaletra® (Lopinavir/Ritonavir), Lamivudine & Zidovudine, and 6) Kaletra® (Lopinavir/Ritonavir), Emtricitabine & Zidovudine. Data were first analyzed on each antiretroviral drug and then in regimens. Package inserts and treatment guidelines were reviewed for possible medical/medications history and lifestyle contraindications.<sup>4,5</sup>

All the 100 patients had at least one potential contraindication to the six ART regimens. Ninety-six percent of the patients had potential contraindication to at least one antiretroviral examined based on medical/medication history, while 93% of the patients had potential contraindications based on lifestyle characteristics. Efavirenz and Kaletra® exhibited the

highest levels of potential contraindication on both medical/medication history (75% and 87% respectively), and lifestyle (79% and 88%) respectively.

The high level of potential contraindication displayed by all ARVs examined implies that these are only relative contraindications since these ARVs are the standard of care globally. This study highlights the significance of medical/medications history and lifestyle characteristics in ensuring success in HIV treatment. Resource poor countries should embark on studies to examine the impact of medical and lifestyle issues on ART. Knowledge from these studies would promote success in ART.

## Acknowledgements

This study was partially supported by Grant D43 TW01036 from the Fogarty International Center of the National Institutes of Health through Baylor College of Medicine International Pediatric AIDS Initiative. We wish to acknowledge Dr. S. Lewis, MD (Tanox Inc., Houston) and L. Lal of Texas Southern University College of Pharmacy, Houston Texas for facilitating the secondary use of data.

## References

1. UNAIDS. UNAIDS/WHO AIDS Epidemic Update: Available at [http://data.unaids.org/pub/EpiReport/2006/2006\\_EpiUpdate\\_en.pdf](http://data.unaids.org/pub/EpiReport/2006/2006_EpiUpdate_en.pdf).
2. Chesney, M.A., Ickovics, J., Hecht, F.M. Adherence: a necessity for successful HIV combination therapy. *AIDS*. 1999;3:S271-278.
3. Grimes RM, Lal L, and Lewis ST. Frequency of Medical History items, Drug interactions, and Lifestyle characteristics that may interfere with antiretroviral medications. *HIV Clinical Trials*. 2002;3(2):161-167.
4. DHHS. Guidelines for the Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents: October 6, 2005. Panel on clinical practices for treatment of HIV infection Accessed at <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>.
5. Aberg JA, Gallant JE, Anderson J, et. al. Primary Care Guidelines for the Management of Persons Infected with Human Immunodeficiency Virus: Recommendations of the HIV Medicine Association of the Infectious Diseases Society of America. *Clinical Infectious Disease*. 2004; 39: 609-629.

## Book Review:

**The Role of Mathematics in Human Structure**  
Swapan Adhikari, Dipali Publications, 2003

This is a novel attempt to present human anatomy and physiology in mathematical terms. The author begins with a review of human morphology, with the geometric diagrams of Leonardo da Vinci (1452-1519) as a starting point. He then traces a history of mathematical approaches to the human body, through the physiological reflections of René Descartes (1596-1650), to the development of embryology as a discipline. This leads on to an analysis of states of both health and disease as they can be represented in mathematical terms.

Perhaps inevitably, the musculoskeletal system receives the

greatest attention in this volume (103 of the book's 137 pages are devoted to this system). While geometry and physics pertain especially to these locomotive structures, the more dynamic varieties of mathematics have an important place in the understanding of the movement of blood, molecules and ions in the constant interactions that sustain life.

This book will be helpful and stimulating to research students, orthopaedic specialists and any who are interested in the constructive interface between sciences – frontiers that too often remain unexplored.

Prof B Msamati  
Dept of Anatomy, College of Medicine.