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

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Human immunodeficiency virus (HIV) infection is a major public health problem especially in Sub-Saharan Africa. 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. 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), 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, 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.

All the 100 patients had at least one potential contraindication to the six ART regimens. Ninety-six percent of the patients had potential contraindications based on medical/lifestyle history. Six ART regimens recommended by the US Department of Health and Human Services in 2005, 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.

All the 100 patients had at least one potential contraindication to the six ART regimens. Ninety-six percent of the patients had potential contraindications based on medical/lifestyle 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.

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References


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.

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