New insights in the management of cancers in people living with HIV in high disease burden- resource-limited countries of Africa: Opportunities for international collaborative efforts

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Global estimates by UNAIDS (2016) showed that although 36.7 million people (adults and children) were living with HIV (PLHIV) compared to 28.9 million in the year 2000, some 19.0 million were receiving the life-saving highly active antiretroviral therapy (HAART) many more than 770,000 and AIDS-related deaths had been reduced to 1.1 million from 1.5 million in 2000. The biological association between HIV and cancers was heralded by the inclusion of Kaposi sarcoma in the first AIDS case definition (CDC,1981;1982) and the subsequent dichotomous classification of cancers as either AIDS-defining(ADCs) and non-AIDS-defining (NADCs) by some authors (CDC,1993; Schneider et al;2008) or other categorization as infection-related and infection-unrelated (Silverberg et al;2009; Borges et al;2016) Sub-Saharan Africa (SSA) bears the heaviest brunt of the AIDS scourge, accounting for up to 69.5% of PLHIV out of whom 74.5% live in the 21 countries of Eastern and Southern Africa (ESA) as reported by UNAIDS (2016). The global cancer burden has increased rapidly both in developed and developing countries in the recent past (Ferlay et al;2010; Sasco,2008) almost doubled from 7.6 million in 2002 to 12.7 million in 2008 (Lingwood et al;2008). The emergence of HIV and AIDS in Africa has been accompanied by a concomitant increase in various cancer types giving credence to the notion that by 2030 at least a million Africans will be dying annually from cancer (Sylla and Wild,2012). The impact of HIV infections on the epidemiology and pathogenesis of cancer in Africa has not been fully described. The occurrence of region-specific attributes have been reported in Africa (Sasco et al;2010; Casper,2011). Some reports have shown the prevalence of ADCs including Kaposi sarcoma, non-Hodgkin lymphoma(NHL) and invasive cervical cancer to be so high in ESA that could represent up to 80% of the global burden (Ferlay et al;2015; Rohner et al;2016). Since SSA and specifically ESA has disproportionately the highest burden of both HIV and combined ADCs and NADCs, a comprehensive understanding of evidence-informed and cost-effective strategies of prevention and treatment of cancers among PLHIV would be required to reduce the resultant morbidity and mortality. It is worth noting that whereas HAART reduces AIDS-related deaths from Kaposi sarcoma and NHL except invasive cervical cancer and affords PLHIV longer life expectancy, it nevertheless increases vulnerability, morbidity and mortality from NADCs associated with aging (Herida et al;2003; Powles et al;2009). Despite the milestones achieved through increased access to HAART by PLHIV in ESA countries (UNAIDS,2016), a number of predisposing factors to the upsurge of lethal cancers persist. These include poverty, limited government health budgets, weak health care systems, safety and quality of chemotherapy and high prices of medicines (Adebamowo and Akarolo-Anthony,2009). Other factors include weak research infrastructure and capacity in general and in developing new treatment drugs from the abundant natural products, ineffective regulation of alcohol and tobacco use and the inadequate training of health care workers to diagnose cancer and provide effective treatment in public health facilities with limited budgets (Lindsey et al;2015). The situation appears to be aggravated further by structural factors including stigma and discrimination and the poorly understood interactions between drugs used in the treatment of HIV infections and the various existing anti-cancer drugs that may themselves exacerbate overall morbidity and the rising mortality. To reduce HIV incidence, AIDS-related mortality and inherent discrimination among PLHIV with cancers in ESA countries to fewer than 200,000 and zero by 2030, this paper proposes new avenues of international collaboration in the management of cancers.

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