The transition from co-morbidities to geriatric syndromes in HIV

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Editor

Several recent cohort studies have suggested that life expectancy of HIV-infected individuals is currently comparable to that of the general population, particularly when antiretroviral therapy (ART) was initiated at earlier disease stages.[1] Simultaneously, HIV seroconversion among older age persons is increasingly recognized, in part as the result of lower perceptions of sexual risk in older people.[2] The overall effect is one of advancing age among HIV-infected persons, with a recognition that persons who age with HIV infection have an increased burden of age-related comorbid illnesses compared to persons of a similar age who were more recently HIV-infected.[3]

Effectively treated HIV infection is associated with excess risk for multiple non-communicable diseases (NCDs). These conditions include diabetes, cardiovascular disease, osteoporosis, kidney disease, and chronic obstructive pulmonary disease, and may recognize an unhealthy lifestyle prevalent in people living with HIV, or HIV per se, to be risk factors which justify a disease burden higher than expected in the general population. NCDs span across different physiological systems and frequently aggregate in complex multi-morbidity pictures.[4] These conditions are all strongly age-related, therefore labor intensive screening algorithms have been developed for the assessment of clinical and subclinical organ diseases, appropriate to different age strata.

Frailty involves increased risk for many age-related clinical conditions, implicating multiple causes and contributing factors. As a syndrome it is characterized by "diminished physical strength, endurance, and reduced physiologic functioning that increases an affected individual's vulnerability for functional dependency and/or death".[5]

The clinical spectrum of aging-related conditions is extremely varied and complex and the characterization of aging as a discreet health condition must consider much more than chronological age and include the development of geriatric syndromes.[6] Geriatric syndromes occur "when the accumulated effects of impairments in multiple systems render an older person vulnerable to situational challenges". In addition, it is possible that there are primary biological deregulations that affect the fundamental mechanism in maintaining the biological homeostasis or the anatomical integrity of the organism.

Geriatric syndromes (i.e., frailty, falls, incontinence, delirium) have elevated prevalences, in some cohorts up to 30-50% in HIV patients above the age of 50 years old, they are generated through multifactorial processes, and associate considerable morbidity and poor outcomes.[6]

The debate regarding accelerated ageing processes affecting HIV is not yet solved[7] but in a clinical perspective the increased prevalence of frailty and geriatric syndromes supports the likelihood of a certain HIV specificity in geriatric syndromes. Many HIV specific potential contributing factors have been proposed,

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including chronic inflammation, long-term antiretroviral drug toxicity, neurocognitive impairment and higher rates of social and behavioral risk factors. Last but not least is the change of body composition observed in HIV patients in whom peripheral lipoatrophy characterizing thymidine-analogue treated patients, apparently evolves into a sarcopenic/obesity phenotype portraying advanced age.

Falls are a common geriatric syndrome, and are multifactorial, causes including age-related comorbidities or physical impairments, but also polypharmacy,[8] factors which are also highly prevalent among HIV-infected older adults.[9] Similarly, many of the clinical factors that contribute to low bone mineral density (e.g., the use of antidepressants, sedatives, and opiates) overlap with risk factors for falls, resulting in a high risk of a serious fall among older adults with the greatest risk for a fracture.[10]

Self-reported falls were described among 359 middle-aged, HIV-infected adults on effective ART in a Colorado cohort; 30% experienced at least 1 fall during the prior year, similar to fall rates reported among HIV-uninfected adults aged 65 or older.[10]

A second well described geriatric syndrome is delirium. It is defined as "a transient, usually reversible, sudden cause of cerebral dysfunction that manifests clinically with a wide range of neuropsychiatric abnormalities". It can occur at any age, but is more common in elderly patients, particularly in case of hospitalization,[11] postoperative status,[12] or admission to the intensive care unit.[13] Although timely recognition of delirium can improve outcomes, 50% to 75% of delirium is undetected or misdiagnosed in acute-care hospitals.[14]

This is also the most common neuropsychiatric complication of hospitalized patients with AIDS – a 30%-40% prevalence of delirium being reported in these patients.[15] In a delirious patient with AIDS, a complete evaluation is initially needed to rule out all treatable and reversible medical conditions.[15]

The transition from co-morbidities to geriatric syndromes assessment in HIV implies both a structural and a cultural change in patient assessment. The geriatric approach goes beyond a multidisciplinary assessment and involves a multidimensional process, designed to evaluate an older person's functional ability, physical and mental health, cognition and socio-environmental circumstances. The evaluation includes nonmedical domains and emphasizes functional capacity and quality of life.

Interdisciplinary team members (e.g., nurses, social workers, pharmacists, psychologists and occupational therapists in particular) can administer screening tools to both save time and help the team focus on specific limitations that need more detailed evaluation. In this setting assessment of co-morbidities and multi-morbidity is not the end of the clinical evaluation but rather the starting point, to address to what extent disease conditions produce impairment, with dysfunction and structural abnormalities in specific body systems (musculoskeletal, cardiovascular, etc.), impact functional limitation, with restriction in basic physical and mental action (walk, climb stairs, speak, see standard print, etc.) and ultimately produce disability. The goal of prevention is therefore not just avoiding mortality as an obvious negative endpoint, but rather reaching disability free survival in a successful aging process which requires the active empowerment of the patient. In fact, education and involvement of the patient remains vital for the success of any treatment plan to ensure it meets the varying needs of individual patients.

The detection of geriatric syndromes in older patients with HIV is of paramount importance, since the prompt recognition of the often

multifactorial causes and the prompt initiation of preventive and therapeutic interventions are able to reduce mortality and, most importantly, disability in patients with HIV.

Conflicts of interest: none to declare.

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