The Case for Cognitive Screening in HIV Clinics

Abstract:

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A retrospective chart review was carried out at the HIV clinic in St. James’s Hospital, Dublin to examine the rate of cognitive impairment through the use of surrogate markers for cognitive impairment. 500 consecutive hospital charts were reviewed. There were 306 men and 194 women. Median age was 37. The most common mode of transmission was heterosexual. 45% had a nadir CD4 < 200. 78.6% were on antiretroviral therapy and 72.26% were virally suppressed. 69/500 patients (13.8%) had one or more positive surrogate markers for cognitive impairment. The surrogate markers used were subjective complaints, a new onset of a psychiatric diagnosis post diagnosis with HIV, neurological complications and radiological evidence of atrophy. Multivariate analysis using logistic regression showed significant relationships only with gender and year of diagnosis. This figure is lower than reported international prevalence rates of cognitive impairment and demonstrates that surrogate markers are no match for structured cognitive screening. We have since commenced structured prospective screening to obtain a true prevalence of cognitive impairment in this population.

Introduction

Cognitive impairment in HIV occurs in 20% to 50% of patients with HIV. The incidence of HIV dementia has decreased in the post HAART era but cognitive impairment continues to be an ongoing clinical issue even in those with an undetectable plasma viral load and stable CD4 count. Competing needs in a busy outpatient HIV clinic affect ability to screen all patients for cognitive impairment. We undertook this chart review to examine if the use of novel surrogate markers could help in identifying those in need of screening as no subjective or objective assessments were being carried out prior to this.

Methods

A retrospective chart review was carried out at the HIV clinic in St. James’s Hospital, Dublin, Ireland to examine the rate of cognitive impairment through the use of surrogate markers. The markers used were subjective complaints, a new onset of a psychiatric diagnosis post diagnosis with HIV, neurological complications and atrophy on CT or MRI brain. 500 consecutive hospital charts were reviewed from August 9, 2010 to September 16, 2010. Variables recorded included age, gender, nationality, mode of transmission of HIV, nadir CD4 count, current CD4 count, viral load, co-morbidities and antiretroviral history.

Results

69 patients (13.8%) had one or more positive surrogate markers for cognitive impairment. 9% had a new onset of a psychiatric disorder, the most common of which was depression (34/500). Psychiatric evaluation did not involve an assessment of cognition. A new onset of a psychiatric disorder was included as a surrogate marker as patients with HIV associated neurocognitive disorder (HAND) may have psychomotor slowing, apathy and behavioural changes and therefore psychiatric manifestations are likely a feature of the spectrum of HAND. 5.6% had a neurological complication of HIV, the most common of which was epilepsy (11/500). 4 patients had progressive multifocal leukoencephalopathy. Only 33 of the patients with positive surrogate markers had neuroimaging, 13 patients had abnormalities on imaging, 6 of whom had evidence of atrophy and the remaining abnormalities included bilateral frontal hyperintensities, old infarcts, gliosis, features of toxoplasmosis and a subdural haematoma. There were 3 patients whose sole criterion was atrophy on imaging. 94% of patients with positive surrogate markers were on HAART.

On univariate analysis significant relationships were found between the presence of positive surrogate markers for cognitive impairment and female gender, older age, nadir CD4 < 200, longer duration of infection, Ireland as a country of birth, intravenous drug use as a mode of transmission, being on HAART and co-infection with hepatitis. Multivariate analysis using logistic regression showed significant relationships only with gender and year of diagnosis.

Discussion

We only identified 13.8% of the study group as having cognitive impairment. This figure is lower than international studies and reflects the fact that this was a chart review and that surrogate markers are no match for prospective cognitive assessment. With an aging HIV positive population, cognitive impairment in HIV will continue to be a clinical concern and potentially may affect an increasing number of people with longer duration of disease resulting from significantly improved life expectancy and increasing exposure to antiretroviral therapy. This will have implications for service provision and ensuring a good quality of life for patients. This chart review highlights the need for cognitive screening in this patient population at our institution. We have since commenced structured prospective screening with the brief neurocognitive screen to obtain a true prevalence of cognitive impairment in this population.
population.

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References