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HIV-mediated CD8 encephalitis: An under recognised entityA. Manesh^{1,*}, R. Barnabas², R. Karthick³, G. Chacko², R. Kannangai², G.M. Varghese²¹ Christian Medical College, Vellore, Vellore, Tamil Nadu, India² Christian Medical College, Vellore, Vellore, India³ Christian Medical College, Vellore, India

Background: Combined antiretroviral therapy (cART) has been associated with significant decrease in the mortality and morbidity in patients with HIV/AIDS. However, there has been increased recognition of immune dysregulation syndromes related to recovery of immunity on cART. HIV-mediated CD8 encephalitis is a rare neurological syndrome due to perivascular inflammation caused by infiltration of CD8+ cells.

Methods & Materials: We report the clinical and pathological features of three cases of CD8 encephalitis which will sensitise the clinicians to have high index of suspicion to recognize this entity early.

Results: All three patients were men with a mean age of 42.3 years. The mean duration of HIV was 10 years. The patient's mean CD4 at presentation was 392 cells/microL and blood HIV viral load was 11,588.3 copies/ml. All patients presented with an average duration of 4 months with cognitive decline, especially memory disturbances and tremors. The mean cerebrospinal fluid (CSF) cell count was 65 cells/ml, lymphocyte predominant (mean - 97%), and protein was 171.3 mg/dl. The CSF lymphocyte subset analysis showed a median CD8 cell proportion of 54.7%. CSF was tested negative for viral infections (HSV1, HSV2, CMV, JC virus and VZV) and VDRL. The CSF cultures were sterile and GeneXpert was negative. MRI brain revealed diffuse hyperintensities involving the deep grey and white matter and typical perivascular hyperintensities were present in one patient. All patients were started on steroids after excluding other etiologies. Two patients made a complete recovery while one patient in whom the diagnosis was delayed succumbed to the illness. Postmortom brain biopsy of the patient who had a fatal outcome demonstrated perivascular cuffing with lymphocytes positive for CD8 and negative for CD4 and CD20 markers on immunohistochemistry, consistent with CD8 encephalitis.

Conclusion: CD8 encephalitis is a rare but potentially treatable cause of cognitive decline in patients with HIV on cART. The typical presentation includes memory impairment with extrapyramidal symptoms like tremors with lymphocytosis in CSF and predominant CD8 cells in CSF. MRI may show the typical perivascular hyperintensities in the deep brain tissue. Aggressive early steroid treatment after excluding opportunistic infections is likely to result in complete recovery.

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The level of education affects CD4 cell count and wellness among HIV infected adult between age group 18 to 60 yearsS.P. Maurya^{1,*}, R. Singh², N. Negi², A. Kapil³, R. Chaudhry⁴, B.K. Das³¹ All India Institute of Medical Sciences, New Delhi, New Delhi, Delhi, India² All India Institute of Medical Sciences, New Delhi, New Delhi, India³ All india institute of medical science, new delhi, India⁴ All India Institute of Medical Sciences, New Delhi, NEW DELHI, India

Background: HIV infection continues to be one of the dominating infectious diseases with 36.9 million cases worldwide. However, HIV prevalence could be much more as only 51% of people living with HIV know of their status. Profound immunodeficiency is the hallmark of HIV infection which primarily occurs due to decrease in CD4 cell count. Anti Retroviral Therapy (ART) is initiated when CD4 count falls below 350/mm³ and it goes lifelong. The CD4 count could be influenced by various factors, some of which could be modified by the people living with HIV. In this study, we evaluated the effect of education level among HIV infected adults on the CD4 count and HIV associated co-morbidities.

Methods & Materials: The retrospective study comprised of newly diagnosed HIV infected adults between 18 to 60 years visiting National HIV Reference Laboratory, All India Institute of Medical Sciences (AIIMS), New Delhi. The selected population was not on ART at baseline. The selected time period was the last four years (July 2011-June 2015). The statistical analysis was done at GraphPad Prism 5 software using two tailed chi-square test at 95% confidence interval.

Results: Among 2867 ART naive HIV infected adults between 18 to 60 years, 14% had no education, 47% had education up to school level, 19% had higher education, i.e., graduation or above and the education level of remaining percentage was not available. Significant difference was found in the mean CD4 count of those having no education than those having higher education, i.e., graduation or above. Decrease in CD4 count below 350/mm³ was more likely seen among those having no education in comparison to other groups (P= 0.0001). HIV infected adults with no education were more prone to HIV infection associated co-morbidities particularly diarrhoea (P<0.0001;OR=2.112;RR=1.845) and tuberculosis (P=0.0025;OR=1.918;RR=1.503).

Conclusion: Our data shows that education seems to affect the CD4 count and health of HIV infected adults. Access to education provides better understanding of sanitary and hygiene practices. Higher education creates higher income and thus better access to nutritious food. Proper sanitation, hygiene practices and nutrition increases the CD4 count among HIV infected adults.

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