

Natureza do trabalho: Revisão de Literatura

TÍTULO

NEUROLOGIC DISORDERS ASSOCIATED WITH HIV/AIDS

RAFAEL KANJI NAKAMURA, ELEXANDRA APARECIDA SIMÕES, GISELI KARENINA TRAESEL, LETÍCIA MIE MORIYA, LUIS EDUARDO SILVA ORMONDE, MAIRA THAÍS HARO ROSSINI

UNIVERSIDADE FEDERAL DA GRANDE DOURADOS, UFGD, DOURADOS, MS, BRASIL

RESUMO

Introduction: First diagnosed in the 80s the Acquired Immune Deficiency Syndrome (AIDS) has become a pandemic challenge to public health. AIDS is caused by HIV-1 and HIV-2 (Human Immunodeficiency Virus) and has as hallmark progressive fall of T-cells CD4+ leading to profound immunosuppression that predisposes the patient to opportunistic infections and neoplastic diseases^{1,12}. HIV is most likely to infect the immune system but it can also reach the Central Nervous System (CNS)¹². Therefore, the relevance of this study consists in to identify the neurologic disorders associated with the HIV infection and their impacts on the quality of patients' lives and to highlight the need of more researches in this area.

Objective: To present concepts and discussion about neurologic disorders associated with HIV/AIDS infection. **Material and methods:** This study was based in published articles in the database of Medline, PubMed and Scielo in English and Portuguese languages that discussed about HIV and neurologic disorders. **Results:** A study made with 653 HIV-infected patients indicated that 26% showed symptoms related to neurological disturbs. The main neurological symptoms were motor deficit, headache, mental confusion, convulsive crises, behavior changing and memory disturb. 5 Another study involving 1.651 HIV-infected patients, presented 24,5% with at least one neurologic disorder, whereas 41% patients with AIDS presented neurologic disorders associated¹³. **Discussion:** HIV - associated neurocognitive disorders (HAND) have many clinical manifestations, since the asymptomatic form until serious cognitive changes, as the dementia. Its pathogenesis starts with the virus infection in the cerebral parenchyma through infected monocytes that cross the blood-brain barrier ("Trojan horse").^{2,3,7} Consequently, there will be the immune system activation, occasioning the neuroinflammation that will predispose to neurodegeneration^{2,8}. For the HAND development is necessary the interaction between viral and host factors. Factors related to the host include genetic predisposition, metabolic disorders (insulin resistance), aging, vascular disease, anaemia, malnutrition, hepatitis C virus infection and patient behavioral habits (use of psychoactive substances like cocaine, for example) which can potentialize the infection^{2,3,9}. On the other hand, HIV associated factors are AIDS, immune system activation, HIV subtypes, neuro-adaptation and resistance to drugs^{2,10}. HAND is a subdiagnosed problem in HIV+ population. Several tests are available in the clinical practice in order to evaluate cognitive function, some of them are simple and quick, like MOS-HIV and PAOFI². Despite the therapy progress there isn't enough research to prove the best therapeutic approach, although antiretroviral drugs and combination therapy with high CPE (Central Nervous System Penetration-effectiveness Score) drugs must be considered, while pharmacological therapies and other alternatives are being studied^{2,3,4}. **Conclusion:** It is crucial to the well-being of the patient in treatment of HIV the precise and early diagnosis of neurologic complications, besides a therapeutic intervention capable of relieving the symptoms and promote quality of life.

References

1. Brasil. Ministério da Saúde. Departamento de DST, Aids e Hepatites Virais. Available at: <http://www.aids.gov.br/pagina/aids-no-brasil>
2. Elbirt D, Mahlab-Guri K, Bezalel-Rosenberg S, Gill H, Attali M and Asher I. HIV-Associated Neurocognitive Disorders (HAND). IMAJ, 17, January 2015.
3. Gannon P, Khan M, Kolson D. Current understanding of HIV- associated neurocognitive disorders pathogenesis. *Curr Opin Neurol*; 24(3): 275–283. June 2011.
4. Tedaldi E, Minniti N, Fischer T. HIV-Associated Neurocognitive Disorders: The Relationship of HIV Infection with Physical and Social Comorbidities. *BioMed Research International*, 1-16. January 2015.
5. Puccioni-Sohler M, Corrêa RB, Perez MA, Schechter M, Ramos Filho C, Novis SAP. Complicações Neurológicas da Síndrome de Imunodeficiência Adquirida. *Arq. Neuro-Psiquiatr.* 1991 June; 49(2): 159-163.
6. Kaul M. HIV-1 associated dementia: update on pathological mechanisms and therapeutic approaches. *Curr Opin Neurol* 2009; 22: 315-20.
7. Lindl KA, Marks DR, Kolson DL, Jordan-Sciutto KL. HIV-associated neurocognitive disorder: pathogenesis and therapeutic opportunities. *J Neuroimmune Pharmacol* 2010; 5: 294-309.
8. González-Scarano F, Martín-García J. The neuropathogenesis of AIDS. *Nat Rev Immunol* 2005; 5: 69-81.
9. Gonzalez E, Rovin BH, Sen L, et al. HIV-1 infection and AIDS dementia are influenced by a mutant MCP-1 allele linked to increased monocyte infiltration of tissues and MCP-1 levels. *Proc Natl Acad Sci USA* 2002; 99: 13795-800.
10. Ellis RJ, Badiee J, Vaida F, et al. CD4 nadir is a predictor of HIV neurocognitive impairment in the era of combination antiretroviral therapy. *AIDS* 2011; 25:1747-51.
11. Robbins & Cotran et. al. *Patologia: Bases patológicas das doenças*. Elsevier. 8ª ed. 2012.
12. Longo DL, Fauci AS, Kasper DL, Hauser SL, Jameson JL, Loscalzo J. *Medicina Interna de Harrison*. 18ª ed. Porto Alegre: AMGH, 2013.
13. Vivithanaporn P, Heo G, Gamble J et al. Neurologic disease burden in treated HIV/AIDS predicts survival. *Neurology* 75; 1150-1158. September 2010.