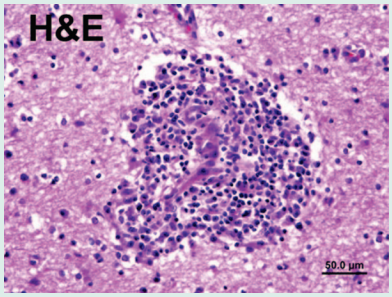
CNS immune reconstitution syndrome with HIV infection



Venkataramana et al. describe three patients with clinically distinct neurologic manifestations of immune reconstitution inflammatory syndrome with HIV infection and review the disorder. This potentially fatal syndrome is paradoxically associated with successful control of HIV replication with antiretroviral drugs.

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Commentary by Alessandro Di Rocco, MD

The clinical outcome and the spectrum of neurologic manifestations of HIV infection have dramatically changed since the introduction of highly active antiretroviral therapy (HAART). However, neurologists are still confronted with a variety of complications of HIV infection affecting the central and peripheral nervous system, and have become familiar with the neuropsychiatric complications of antiretroviral agents.

In the past few years a growing number of observations have documented a new and unexpected set of HIV complications that develop after HAART is initiated, seemingly related to the process of reconstitution of the immune system.

This immune restoration inflammatory syndrome (IRIS), or immune reconstitution syndrome, is characterized by the appearance of opportunistic infections (OI) or a noninfectious inflammatory disease within weeks from the beginning of treatment with HAART. It is increasingly being recognized as an independent cause of severe morbidity and mortality in AIDS, particularly among subjects with very low CD4 cells at the time when HAART is started.[1,2]

Infections of varying severity due to *Mycobacteria*, cryptococcus, herpes viruses, hepatitis B and C virus, and JC virus have been most commonly reported with IRIS. The majority of the affected patients had been previously treated for those OI, but in some subjects there was no prior history. Among the latter are cases of severe progressive multifocal leukoencephalopathy.[1] The spectrum of manifestations attributed to IRIS continues to expand, but it is clear that the nervous system is frequently a target.[1,2]

IRIS has also been implicated in a number of unexplained inflammatory diseases, including cerebral vasculitis, in which an infectious agent could not be identified.

Although considered rare, its true prevalence is unknown, and may be more frequent in developing countries where subclinical infection with mycobacteria or other infectious agents are more common.[1]

The major therapeutic challenge usually rests in recognition of IRIS and the prompt initiation of therapy. Once the OI has been successfully treated, most subjects do not experience further complications related to the immune reconstitution. The use of corticosteroids or other anti-inflammatory drugs may be helpful in more severe cases and in patients with the noninfectious inflammatory syndrome.[2]

The cases reported in this issue add to the descriptions of neurologic manifestations of IRIS and highlight a new challenge for the neurologic community caring for patients with AIDS.

References

1. French MA, Price P, Stone SF. Immune restoration disease after antiretroviral therapy. AIDS 2004;18:1615–1627.
2. Hirsch HH, Kaufmann G, Sendi P, Battegay M. Immune reconstitution in HIV-infected patients. Clin Infect Dis 2004;38:1159–1166.

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