Imaging Helps in Dx of Neurologic AIDS Diseases

BY KERRI WACHTER
Senior Writer

ORLANDO, FLA. — Neuroimaging can make a big difference in the care of AIDS patients, who are vulnerable to several opportunistic diseases, one expert said at the annual meeting of the American Society of Neuroimaging.

James G. Smirniotopoulos, M.D., chairman of radiology at the Uniformed Services University of the Health Sciences in Bethesda, Md., noted that AIDS patients are vulnerable to both infectious and neoplastic opportunistic diseases. Neuroimaging is indicated in any AIDS patients who manifest:

- ► Mental status changes.
- ► Neurologic deficits.
- ► Seizures (focal or generalized).
- ► Headaches.
- ► Meningeal signs.

There are some cautions, though. AIDS patients typically have depression and other psychological conditions as a result of their situation; these should be separated out from genuinely neurologic causes.

In addition, in a substance-abuse population, seizures can be the result of substance withdrawal. Lastly, when AIDS patients complain of headaches, their immune status can determine the type of imaging used. For patients with very suppressed CD4 counts (less than 200 cells/μL), get a CT scan. If the count is mildly suppressed (greater than 200 cells/μL), get an MRI.

Once AIDS patients have been imaged, Dr. Smirniotopoulos and his colleagues triage them based on whether they have normal imaging results, atrophy, lesions without mass effect, or mass lesions.

The two most common mass lesions seen on images in patients with AIDS are from primary infections and CNS lymphomas.

He warned that several conditions can spuriously give an appearance of atrophy, including malnutrition, dehydration, steroid use, and long-term renal dialysis.

AIDS encephalopathy can also appear as atrophy. On images, this condition typically appears as bilateral white matter volume loss that can be symmetrical or not. "This is a disease process that is destructive of the parenchyma, but there's a lot of debate about what's really going on," Dr. Smirniotopoulos said.

Progressive multifocal leukoencephalopathy (PML) is a lesion that has geographic signal and density abnormalities but without a mass effect. This lesion usually does not show any effect when enhanced using gadolinium. PML is a demyelinating white matter disease. On images, look for big geographic lesions that come right up to the gray matter and stop, Dr. Smirniotopoulos said.

The lesions are the result of infection with the ubiquitous JC papovavirus. As many as 70% of adults have antibodies to this virus, and almost 20% of patients with AIDS express antigens. PML is responsible for about 4% of AIDS deaths. Mortality is high in these patients. In the past, most patients with PML died within 4-6 months of diagnosis. Zidovudine and other antiretroviral drugs have improved survival only somewhat.

The two most common mass lesions seen on images in patients with AIDS are from primary infections and CNS lymphomas—with toxoplasmosis being the most common of the infections. "Toxoplasmosis is still probably what we think about first and foremost when an AIDS patient has a mass lesion," Dr. Smirniotopoulos said.

If toxoplasmosis is suspected, try empiric therapy for 3 weeks. If any of the lesions fail to respond, it's time to get a biopsy, he said. The infection results primarily in paracentral brain abscesses. "Abscesses in toxoplasmosis tend to be relatively deep rather than being peripheral," he said. The abscesses can be in gray or white matter. Abscesses are round, uniformly convex with smooth, thin walls and are often multifocal.

It can be difficult to distinguish between a toxoplasmosis infection and lymphoma. "Lesions that involve the deep white matter and the deep gray matter at the same time might be CNS lymphoma or toxoplasmosis, and the problem is that both of these diseases occur in immunosuppressed patients," Dr. Smirniotopoulos said.

The good news is that in most cases—roughly five out of six—primary CNS lymphoma has distinguishing features on imaging that allow diagnosis. Lymphoma is a small round tumor with densely packed cells that result in hyperattenuation on a noncontrast scan.

CNS lymphomas are usually primary, non-Hodgkin's, and B cell. Primary lymphoma is usually paracentral, hugging the ventricles. "Very commonly, [CNS lymphomas are] going to be hypointense to gray matter on multiple pulse sequences," Dr. Smirniotopoulos said. ■

Women Who Are Newly Diagnosed With HIV Often Skip Pap Tests

BY JANE SALODOF MACNEIL
Southwest Bureau

LOS ANGELES — Many women do not go for recommended Pap testing after being diagnosed with the human immunodeficiency virus, despite being at elevated risk for cervical cancer.

Chart reviews of 428 women seen at an urban HIV clinic found 48% had Pap tests within a year of enrollment at the clinic. Yet the clinic's physicians had referred all of the women for testing, many of them repeatedly, Laurie C. Zephyrin, M.D., reported at the annual meeting of the Society for Gynecologic Investigation.

"Those women who had other social factors or who tended to be sicker tended not to have their Pap tests. But they were referred. The primary care physicians were definitely doing their job in referring patients," said Dr. Zephyrin of the department of obstetrics and gynecology at Johns Hopkins University in Baltimore.

Guidelines call for Pap testing every 6 months in the first year after diagnosis with HIV, and once annually thereafter, according to Dr. Zephyrin. With so many women not being screened in the first year, she called for simplifying the health care delivery system to make tests more accessible at primary care sites.

"I really think there needs to be a reorganization of how we deliver care, particularly to women with conditions such as HIV," she said.

Dr. Zephyrin and her coinvestigators followed women who enrolled in a large urban HIV clinic affiliated with Johns Hopkins from January 1998 to November 2002. The population was predominantly African American and low income with a median age of 38. More than a third, or 36%, were intravenous drug users.

One in four patients had normal CD4 counts of at least 500. Dr. Zephyrin said that more than 30% had "a diagnosis consistent with AIDS," as reflected in CD4 counts below 200. About three-fourths of the women, 74%, were on highly active antiretroviral therapy (HAART).

The proportion that had a Pap test increased with time spent in the program. Nearly two-thirds, 63%, were screened within 2 years and 75% were screened within 3 years.

By the end of 6 years, 87% had at least one Pap test.

In the first year, black women were 37% more likely to have a Pap test and women on HAART were 38% more likely, compared with their nonblack and non-HAART counterparts. Dr. Zephyrin speculated that the patients on HAART were in the clinic more often and might have been more compliant.

Compared with women with normal CD4 counts, women with counts of 200-500 were 39% less likely to have a Pap test during the first year. Similarly, intravenous drug users were 32% less likely than were those who were not users.

Dr. Zephyrin reported that although 61% of Pap tests were normal, women who had been diagnosed with AIDS were four times more likely to have an abnormal Pap test result within the first year. ■

Treatment Urged for Pregnant HIV Patients

BY JANE SALODOF MACNEIL
Southwest Bureau

HOUSTON — Pregnant women should be treated for human immunodeficiency virus infections even if they are asymptomatic and have normal CD4 counts and low viral loads, said Hunter A. Hammill, M.D.

Pregnancy itself does not affect the course of the disease. The woman's condition will not become worse, but the baby is at risk, he said at a conference on vulvovaginal diseases sponsored by Baylor College of Medicine.

"Optimum therapy should be offered to minimize vertical transmission to the infant," said Dr. Hammill of the college.

Infants of HIV-positive mothers will test positive for 6-8 weeks after birth. Without treatment, about one-third will be infected and remain positive. Breast-feeding can increase the vertical infection rate by 20%.

Studies summarized by Dr. Hammill have reported transmission rates of less than 1%-13% when various therapies were tested in pregnant women. "My series is now down to less than a tenth of a percent vertical transmission with vaginal delivery" when patients are treated with HAART (Highly Active Antiretroviral Therapy), he said.

Dr. Hammill urged practitioners to get up to date on new antiretroviral treatments. About 30 different treatment options are available, he said, and these are typically given in three-drug combinations.

Patients have to be monitored as some agents will have side effects. Among these, he listed unusual dreams, yellow skin, liver and renal toxicities, and nausea lasting several weeks until the patient's body adapts.

Some HAART drugs do pose special risks. He cited rash and hepatic toxicity with nevirapine (Viramune), hyperglycemia with protease inhibitors, and mitochondrial toxicity with nucleoside analogs.

His greatest concern is efavirenz (Sustiva), which is sometimes prescribed because it is considered safe in pregnancy. Because one animal study has linked it to monkey anencephaly, Dr. Hammill said he switches his patients to another drug.

"If you see an HIV patient on Sustiva, please think of birth control," he said.

Dr. Hammill also urged physicians to provide intensive counseling about the importance of complying with treatment. "The big thing in AIDS is adherence," he said. "If you don't take the drug, it doesn't work." ■