Stroke and HIV Infection

To the Editor:

We read with interest the report by Mochan et al1 regarding stroke in HIV-infected patients. This is an exceedingly relevant issue, given that both entities are common and the management of patients in whom both problems coincide is uncertain. The annual incidence rate of ischemic stroke in HIV was 216 per 100 000 in a large cohort, which is less than the stroke incidence of the whole population (>240 per 100 000 in the United States).2 However, stroke becomes more common in immunocompromised patients, particularly those with opportunistic central nervous system infections.3 Other important causes of stroke in HIV-infected patients are consequence of concomitant social issues rather than the effects of HIV itself, predominantly illicit drug use.4 Cocaine use, in particular, is a concomitant social issue rather than the effects of HIV itself, and perhaps the most relevant is the absence of a critical distinction between HIV infection and AIDS. A diagnosis of AIDS is made in patients with HIV infection and a CD4 T-cell count of <200/mm3. Although 14 patients had AIDS on presentation (CD4 T-cell count of <200/mm3), the authors did not specify whether the meningitis cases had lower CD4 T-cell counts.

This information appears crucial, given that stroke per se is not an indication for a spinal tap and about half of the reported patients did not have a previous diagnosis of HIV infection. The interpretation of cerebrospinal fluid (CSF) results can be confusing in both ischemic stroke and HIV infection. Both conditions are associated with nonspecific elevation of CSF protein and lymphocytic pleocytosis.5 Unfortunately, the authors did not provide a detailed description of the CSF profile of their cases. The CSF was obtained from Dr Riana Louw, Gauteng Department of Health, Gauteng, South Africa.1 With regard to the criticisms directed at our experience at the Chris Hani Baragwanath Hospital, Soweto, Gauteng, South Africa,1 we would like to address each of these as follows:

1. Illicit drug use, particularly cocaine, as a cause of stroke is an unknown entity in the black population in South Africa. We have no data on the extent of use and on any documented cases of drug-associated stroke in our patient population. We therefore excluded patients with any type of drug abuse. This separated the so-called social issues from HIV itself in relation to stroke.

2. A lumbar puncture was important in our study population for acute ischemic stroke: a case-control study. Stroke. 1993;24:244.

Response

The letter by Restrepo and McArthur discusses several issues relating to HIV and stroke. The article “Stroke in Black South African HIV-Positive Patients: A Prospective Analysis” described our experience at the Chris Hani Baragwanath Hospital, Soweto, Gauteng, South Africa.1 With regard to the criticisms directed at our article, we would like to address each of these as follows:

1. Illicit drug use, particularly cocaine, as a cause of stroke is an unknown entity in the black population in South Africa. We have no data on the extent of use and on any documented cases of drug-associated stroke in our patient population. We therefore excluded patients with any type of drug abuse. This separated the so-called social issues from HIV itself in relation to stroke.

2. A lumbar puncture was important in our study population because of the frequent occurrence of infections, particularly tuberculosis (TB).7 The incidence of TB in the Gauteng province was 315 of 100 000 population in 2001 (unpublished data obtained from Dr Riana Louw, Gauteng Department of Health, with permission). TB meningitis can present innocuously with no clinical signs of meningitis.8 In the analysis of patients with meningitis in our series, 3 patients were diagnosed with TB meningitis: 2 with CD4+ T-cell counts of <200 cells/mm3 and 1 with a CD4+ T-cell count of >200 cells/mm3. The patients with meningitis of presumed viral origin (HIV or other virus) had CD4+ T-cell counts of >200 cells/mm3. From a clinical point of view, we could not distinguish between these groups of patients. There were no overt signs of meningitis, and the only presenting finding was a sudden focal neurological deficit.9 If spinal taps were not performed on these patients, those with a diagnosis of TB meningitis would not have been identified.

3. Protein S deficiency and HIV-associated stroke have not been systematically studied.6,7 We reported our observation that coagulopathies, in particular protein S deficiency, occurred frequently in our patients.7 We agree that it is naïve to attribute brain ischemia to protein S deficiency. Antiphospholipid antibodies,
protein S deficiency, and other coagulopathies are common in infections, including in HIV-positive patients, patients with vascular events, and normal people.8,9 We have recently completed a study on and are submitting a paper on protein S deficiency in HIV-positive patients with stroke, HIV-positive patients without stroke, and HIV-negative patients with stroke. Our unpublished data indicate that protein S deficiency is not related to HIV-associated stroke.

In conclusion, we agree that a coagulation screen in HIV-positive patients with stroke should be limited to the assessment of “entities associated with arterial thrombosis.” However, we feel that the spinal tap is a necessary procedure in populations in which infectious diseases are frequent.

The management of HIV-associated neurological problems has to be tailored to the population being studied.8

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