Neurosurgical forum

tery infusion) is safe in experienced hands. However, the optimal dosage and diluent are still uncertain. The ocular and central nervous system toxicity might be unacceptable side effects in an otherwise responsive patient.

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Alex Berenstein, M.D.
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Reference

RESPONSE: Dr. Foo, et al., comment that the incidence of leukoencephalopathy in our series (seven of 36 cases, or 19%) following internal carotid artery infusion of BCNU is much lower than that in their study (four of five cases, or 80%) after supraophthalmic BCNU infusion. They postulate that in our study the BCNU delivered was less than intended and the true incidence of leukoencephalopathy is masked by simultaneous tumor growth. I agree with both of these statements. All of our clinical and experimental work has been performed using a hyperalimentation filter. We have demonstrated that by decreasing the alcohol diluent per 100 mg of BCNU we decreased the solubility of BCNU.1 Recently, we have used 30 cc of 5% dextrose in water (D5W) for each 100 mg of BCNU instead of alcohol, and have achieved BCNU recovery (83.7%) equal to that with 3 cc of alcohol (84.9%). Whether BCNU or ethanol alone or in combination is the cause of the ophthalmic vasculitis and leukoencephalopathy, it is prudent to remove the ethanol diluent if it might contribute to toxicity when equal drug solubility can be achieved with D5W. We continue to record an incidence of leukoencephalopathy lower than 20% when D5W is used as the diluent.

In talking to colleagues who use supraophthalmic infusion, it has become clear that the posttreatment white matter reaction is greater than with infraophthalmic infusion. A significant percentage of patients with supraophthalmic infusion have increased edema 1 to 4 days following infusion, possibly the first sign of toxicity to white matter. The decreased flow in the supraophthalmic carotid artery will produce an increased regional advantage with a resultant increase in BCNU delivered to the white matter, although the same absolute dose is mixed in the pharmacy. I believe Dr. Foo may need to decrease his absolute dose for supraophthalmic infusion.

I agree with Dr. Foo that we may be underestimating the incidence of leukoencephalopathy when there is simultaneous tumor recurrence. To differentiate between leukoencephalopathy and tumor recurrence, positron emission tomography with 18F-2-deoxyglucose may prove to be helpful, but if both disorders are present it will be difficult to assess the relative importance of each.

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Reference

Steroids and Avascular Necrosis of Bone

To THE EDITOR: I read with interest the article by Dr. Fast and his colleagues (Fast A, Alon M, Weiss S, et al: Avascular necrosis of bone following short-term dexamethasone therapy for brain edema. Case report. J Neurosurg 61:983-985, November, 1984). As the authors stated, and to the best of my knowledge as well, there have been no large-scale studies concerning steroid-induced avascular necrosis in neurosurgical patients. However, I do not believe this pathological condition is rare. Recently, I encountered two patients with avascular necrosis of the femoral head caused by steroid therapy. I am now preparing to submit an article on these patients, who required replacement surgery 9 and 19 months after the administration of prednisolone for a brain tumor. As was stated by Sugar,1 neurosurgeons should keep in mind that steroids used in the treatment of neurosurgical conditions may cause avascular necrosis of bone.

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Reference

AIDS with Central Nervous System Toxoplasmosis

To THE EDITOR: The recent reports on the acquired immunodeficiency syndrome (AIDS)1,2 have increased our diagnostic acumen. I would like to report a case from Germany of AIDS with central nervous system involvement.

This 62-year-old homosexual man with a history of neurosyphilis, hepatitis A, cryptosporidiosis, and a recent Gram-negative sepsis due to Salmonella B was seen at our institution. The patient had made many extended visits to Africa, Haiti, and Thailand. On examination, a lowered T cell helper/suppressor ratio (0.08:1) was found, but previously obtained biopsies