however, is a good idea and I think it would certainly facilitate the cortical revascularization.

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Leptomeningeal Metastasis

To The Editor: We read with interest the article by Chow and McCutcheon (Chow TSF, McCutcheon IE: The surgical treatment of metastatic spinal tumors within the intradural extramedullary compartment. J Neurosurg 85: 225–230, August, 1996). Ten cases of metastatic intradural extramedullary spinal tumors were reported, all of which were treated with laminectomy and surgical exploration. In eight of 10 of their cases, antecedent or synchronous metastatic parenchymal brain lesions were present. All patients had histologically proven cancer, although the extent of systemic disease was not stated. A single cerebrospinal fluid (CSF) evaluation for cytology was obtained in seven of 10 patients (positive in two), but the volume of CSF cytological examination was not reported. We wish to raise several issues about this approach to patients with cancer, but with the caveat that our philosophy is formed by medical neurooncology.

It is our opinion and that of others that in patients with known cancer, intradural extramedullary subarachnoid lesions are most consistent with leptomeningeal metastasis (LM). It is also not uncommon in LM and occurred in our series in 34% of 63 consecutive patients.2

Prior to treatment, patients with LM require an evaluation of the extent of disease in the central nervous system, which would include contrast-enhanced cranial magnetic resonance (MR) or computerized tomography (CT) imaging, contrast-enhanced spinal MR or CT myelography, and radioisotope ventriculography.2,3,7,8,10,11 In our experience, 43% of patients with LM have coexistent parenchymal brain metastases.3

The diagnosis of LM is often difficult to make and is associated with a high incidence (greater than 40%) of a false-negative result in CSF cytology; therefore, a high index of suspicion regarding the disease is required. Although the clinical presentation is pleomorphic, spinal cord syndrome occurred in 60% of our series.2

Arriving at a diagnosis of LM requires a consistent clinical syndrome, neuroradiographic evidence of LM, or positive CSF cytology.

Finally, the approach we and others recommend to bulky subarachnoid tumor deposits in patients with LM, regardless of cranial or spinal location, is the application of involved-field radiotherapy with or without systemic chemotherapy.1,3,7,8,10,11 Regional or intra-CSF chemotherapy successfully treats small-volume disease, which is defined as tumor nodules less than 2 mm in diameter and fluid-phase disease. The use of this combined modality approach in appropriate patients with LM results in meaningful palliation. For example, we have reported median survival times of 4, 6, and 10 months in patients with LM and melanoma, acquired immunodeficiency syndrome–related non-Hodgkins lymphoma, and breast cancer.3–6

We concur with Drs. Chow and McCutcheon’s conclusion in their summary statement that surgical exploration of intradural intramedullary metastatic tumors should be reserved for patients in whom alternative diagnoses are considered. These patients would include those with lesions consistent with meningiomas and peripheral nerve sheath tumors or those patients without a prior diagnosis of cancer in whom a tissue diagnosis dictates further evaluation and treatment. In patients with known cancer, intradural extramedullary tumor nodules in any location are most consistent with LM and therefore are best managed medically.

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References

RESPONSE: We thank Dr. Chamberlain and Ms. Kormanik for their interest in our paper and for their comments on leptomeningeal metastasis (LM). We agree that any patient suspected of harboring LM should undergo radiographic study of the craniospinal axis and that the diagnosis may be overlooked in the absence of a positive cerebrospinal fluid cytology. However, the reason for publishing this clinical series was to test the hypothesis that focal mass lesions in the intradural extramedullary space really do represent a subset of leptomeningeal carcinomatosis; this notion had not been specifically supported in the previous literature. We believe that the outcomes of our patients do support their inclusion under the rubric of LM and that patients with lesions in this compartment who have a history of malignant neoplasm should (if possible) have tests to search for leptomeningeal disease.
before an operation is performed. It is important to note that the “bulky spinal subarachnoid disease” mentioned by Dr. Chamberlain and Ms. Kormanik represents a more general phenomenon that includes many patients with large but more diffuse spinal masses than the highly focal lesions that were resected in our patients. These tumors have been easily confused with meningiomas by radiologists and neurosurgeons alike and typically pose an immediate threat to the patient’s neurological function that makes early operation (admittedly palliative in retrospect) of paramount importance for this group.

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Atrial Placement of Ventriculoatrial Shunts

TO THE EDITOR: We read with great interest the recently published technical note by Harrison and colleagues (Harrison MJ, Welling BG, DuBois JJ: A new method for inserting the atrial end of a ventriculoatrial shunt. Technical note. J Neurosurg 84:705–707, April, 1996). The paper is well written and comprehensive; nevertheless, we would like to make some comments and to report briefly on our slightly different experience with the aforementioned method for placement of atrial shunt catheters.

In Germany, the method described by Harrison and colleagues is rather well known and routinely performed by us and by other neurosurgeons. More than 4 years ago, we placed the first atrial catheter, using the Seldinger method, with a commercially available catheterization set. In the last 2 years, we have treated 10 patients (four children and six adults, ranging in age from 2 months to 63 years) using basically the same procedure as that used by Harrison, et al. Ventriculoperitoneal shunts had been placed in our patients for idiopathic or occlusive hydrocephalus; these patients presented with peritoneal cerebrospinal fluid malabsorption or frequent abdominal catheter failures, which necessitated the placement of an atrial catheter.

In our opinion, the most important difference between our method and that of Harrison and colleagues is the use of the puncture technique in small children. Harrison, et al., used a No. 7 French peel-away introducer in their 5-year-old patient (Case 2); however, we do not use an introducer in infants and preschool children for safety reasons, but rather we use a smaller diameter set (No. 4 French pediatric central venous catheterization set; Arrow International, Inc., Reading, PA). After puncturing the vessel with a 3.81-cm 21-gauge needle, placing the spring wire guide, and dilating the entry site, we thread the atrial catheter over the wire guide without the use of a peel-away introducer, whereas in adults and adolescents we pass the catheter through an intrajugular No. 13 French peel-away introducer. In this way, when puncturing the vein of an infant or preschool child, to minimize the vascular wall defect and to avoid rupture of the vessel, an introducer is not inserted. In all cases, jugular vein puncture is performed on a 30° tilted operating table (Trendelenburg position) to prevent air embolism.

We remove the obstructed distal peritoneal catheter from the cervical incision to avoid producing additional wounds. Abdominal complaints usually resolve a few days after extraction of the foreign body. The above manipulation is possible in all cases, but is performed only if there is no purulent abdominal infection. In our hands, the minimally invasive placement of atrial catheters does not have any surgery-related complications in infants and small children or in adults and adolescents. Thus, we strongly recommend the aforementioned technique, as do Harrison, et al., because we believe that it represents a less invasive and much faster procedure, compared with catheter placement via the facial vein. Moreover, direct puncture of the jugular vein is the method of choice in infants and small children, because their facial vein is usually too small and fragile for introduction of an atrial catheter of a size sufficient for cerebrospinal fluid drainage. Only experienced surgeons, however, should perform the puncture of the jugular vein in this age group, because the supraclavicular venous access could have potentially life-threatening complications.

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TO THE EDITOR: In their article in the April issue of the Journal of Neurosurgery (Harrison MJ, Welling BG, Dubois JJ: A new method for inserting the atrial end of a ventriculoatrial shunt. Technical note. J Neurosurg 84:705–707, April, 1996), Harrison, et al., present a new, quick, and effective method of ventriculoatrial shunt placement that requires much less dissection than the usual technique for this procedure. They submit two cases in which they obtained good results, but state that studies of larger series with longer follow-up periods are necessary before a final recommendation can be made. We completely agree with this suggestion, but argue that the technique is not new because it has already been reported in the literature. We referred to this article when we performed two ventriculoatrial shunt placements through the subclavian vein in two adult patients with nonpermeable jugular veins; the subsequent 1-year follow up did not present any procedure-related complications.

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RESPONSE: We would like to thank Dr. Rieger and colleagues for their thoughtful comments and for sharing