Neurosurgical forum

References

Solitary Cysticercus Granulomas

To the Editor: I read the article by Rajshekhar and Chandy (Rajshekhar V, Chandy MJ: Enlarging solitary cysticercus granulomas. J Neurosurg 80:840–843, May, 1994) with great interest. Undoubtedly the single enhancing lesions on computerized tomography (CT) are the most common radiological abnormality in younger patients who present with partial seizures, with or without secondary generalized seizures. With regard to this article along with other articles1,2 on this subject, I would like to make a few comments about the ideal management of these lesions.

Authors from India and Latin American countries are in agreement that the majority of these lesions are caused by cysticercosis of the brain.1,12 Rajshekhar and Chandy in their article mentioned that a parenchymal cysticercus cyst of the brain passes through four stages in its natural evolution. The stage that they designate as the “granular-nodular” stage could also be referred to as cysticercal granuloma, which represents a dying cysticercal lesion. Later these lesions heal either by resolution or by calcification. It has also been demonstrated radiologically that the majority of such lesions disappear spontaneously. If a patient has a viable lesion (a circumscribed hypodense lesion on CT scan), anticysticercal treatment would probably just hasten the natural course by exposing it to the host immune defense mechanisms.

Thus far, emphasis has been placed only on radiological improvement; however, the effect of anticysticercal treatment on associated seizure disorders has not been dealt with in the literature.

I believe that seizure disorders associated with single enhancing lesions on CT are benign in nature and easily controlled with anticonvulsant medications. However, an adequate duration of administration of antiepileptic medications should be established. In view of the spontaneous resolution of these lesions, a short duration of antiepileptic therapy will probably suffice. Furthermore, unless a beneficial effect of anticysticercal treatment on associated seizure disorders can be demonstrated, the use of albendazole or praziquantel cannot be justified. These drugs are still costly and involve the patient being hospitalized for several weeks. Other risks1 associated with anticysticercal treatment, such as exacerbation of seizures due to the increase in perilesional inflammation, also mitigate against using this form of therapy, especially when there is no definitive proof of clinical benefit.

I think a better strategy to treat patients with single enhancing lesions on CT would be to administer antiepileptic drugs alone. Follow-up CT scans should be performed only when seizures are not adequately controlled and become intractable. These cases would be ideal for brain biopsy and other aggressive management.

RAVINDRA KUMAR GARG, M.D., D.M.
King George’s Medical College
Lucknow, India

References

RESPONSE: We thank Dr. Garg for his interest in our paper. He has raised two important issues with regard to the management of patients with solitary cysticercus granuloma and seizures.

We agree with him that the seizure disorder associated with solitary cysticercus granuloma is benign in nature and does not require prolonged treatment with antiepileptic drugs. The policy of waiting for a seizure-free period of 2 to 3 years before discontinuing antiepileptic drugs, which is generally advocated for patients with idiopathic epilepsy, is probably not indicated for patients with solitary cysticercus granuloma. We have some preliminary follow-up data on patients with seizures and solitary cysticercus granuloma in whom we withdrew antiepileptic drugs soon (2 to 4 weeks) after resolution of the granuloma was demonstrated on computerized tomography (CT) scanning. Of 62 patients so managed, 58 patients remained seizure free at follow up ranging from 6 to 34 months (median 14 months) (V Rajshekhar: unpublished data). There was recurrence of seizures in four patients; however, even in these patients antiepileptic drugs could be withdrawn after reinstating therapy for periods of 3 to 6 months. Although a larger number of patients with a longer follow-up period is necessary to draw definitive conclusions, we believe that antiepileptic drugs can safely be withdrawn in a majority of patients with solitary cysticercus granuloma soon after the resolution of the lesion on CT scan. The seizure outcome in patients with solitary cysticercus granuloma thus seems to differ significantly from that in patients with other forms of neurocysticercosis where there is a high rate of recurrence of seizures after withdrawal of antiepileptic drugs.

The second issue raised by Dr. Garg pertains to the effect of albendazole on the clinical (seizure) outcome of these patients. The efficacy of albendazole in improving the seizure outcome of patients with solitary cysticercus granuloma and even those with active forms of neurocysticercosis is still unresolved and excites a great deal of controversy. We have previously reported4 that albendazole therapy seems to benefit approximately one-third of patients with persistent solitary cysticercus granuloma by hastening the resolution of the granuloma. Subsequently, reports of both a beneficial effect4 and lack of benefit5 of albendazole in patients with solitary cysticercus granuloma have appeared; therefore, we do not believe that there is a definitive answer on this issue. Further experience with albendazole therapy in patients with solitary cysticercus granuloma, however, has led us to caution potential users that the therapy is not entirely free of side effects and hence should not be undertaken lightly, especially in

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an outpatient situation. Four of a total of 31 patients with persistent solitary cysticercus granuloma who underwent albendazole therapy developed adverse effects in the form of aggravation of their seizures and headache.

Finally, we do not agree with Dr. Garg’s contention that the clinical outcome in a patient with solitary cysticercus granuloma is entirely divorced from the radiological outcome. Because the decision to withdraw antiepileptic drugs is closely linked to the resolution of the granuloma on CT scan, the earlier the resolution occurs (with or without albendazole), the sooner antiepileptic drugs can be withdrawn. Whether albendazole therapy reduces the likelihood of a recurrence of seizures after resolution of the granuloma and withdrawal of antiepileptic drugs, however, remains to be determined.

VENDANTAM RAJSHEKHAR, M.CH.
MATHEW J. CHANDY, M.CH.
Christian Medical College and Hospital
Vellore, India

References

Surgery for Lumbar Spinal Stenosis

TO THE EDITOR: I enjoyed the recent articles by Tuite, et al., and would like to comment on the article in particular (Tuite GF, Doran SE, Stern JD, et al: Outcome after laminectomy for lumbar spinal stenosis. Part II: Radiographic changes and clinical correlations. J Neurosurg 81:706–715, November 1994). I noted some ambiguities in the article and I would like to have them clarified. 1) The authors did not describe their method for measuring the spondylolisthesis angle and disc angle on the anteroposterior radiograph. 2) Although they described the eight reference points on the lateral radiograph in the text, Fig. 1 shows only six points at each vertebral level. 3) In their Results section, they noted that disc space collapse was more pronounced at operated levels than at unoperated levels (7.9% vs 6.9%, p < 0.01); however, in Fig. 1, disc space height is given as “D/H × 100%.” This seems to indicate that disc space was actually more increased at operated levels rather than at unoperated levels.

Perhaps I have misunderstood the authors’ intent. I would appreciate receiving some clarification.

CHUN-KEE CHUNG, M.D.
Seoul National University Hospital
Seoul, South Korea

RESPONSE: I appreciate Dr. Chung’s careful reading of our recent articles. The description of our radiographic method was limited because of the extensive space required for a complete analysis. A more exhaustive description of the radiographic method with many additional measurements is being prepared for a separate publication.

To address Dr. Chung’s concerns specifically, the measurement methods on the anteroposterior radiographs were similar to those used on the lateral films (Fig. 1 in Part II). Six points were plotted at each vertebral level: one at each corner and one at the midpoint of the superior and inferior endplates. Spondylolisthesis, disc space angle, and disc space height were then calculated by the same method described for the lateral radiograph. Measurements at the L5–S1 disc space were limited in many patients because of the poor projection of this area on standard anteroposterior films.

As Dr. Chung points out, only six reference points are used to calculate the measurements cited in our papers but our methods describe eight points of reference. The additional two points were used for quality control of our radiographic methods; they are not necessary to make the measurements described in the paper.

Finally, Dr. Chung is correct to question our statement about disc space collapse. The statement that disc space collapse was more pronounced at operated levels than at unoperated levels is correct. However, the numbers used in the text should have been −7.9% and −6.9%. We made a similar omission in Table 2: disc space height lessened postoperatively in the decompressive lumbar laminectomy (DLL), DLL and discectomy, and unoperated groups. The numbers for the change in disc space height in Table 2 should all be the negative of the values actually printed.

I thank Dr. Chung for bringing these points to our attention and I hope this clarifies those issues.

GERALD F. TUITE, M.D.
LONDON, ENGLAND

Seasons, Snow, and Subarachnoid Hemorrhage: Lack of Association in Rochester, Minnesota

TO THE EDITOR: Many physicians have been intrigued by the possible link between weather and acute cerebrovascular disease. Considerable attention has been given to the seasonal variation of subarachnoid hemorrhage (SAH) and several studies have addressed this issue in the populations of Denmark, France, Japan, Iowa, New York, and most recently Connecticut (Chyatte D, Chen TL, Bronstein K, et al: Seasonal fluctuations in the incidence of intracranial aneurysm rupture and its relationship to changing climatic conditions. J Neurosurg 81:525–530, October, 1994). However, the results of these studies have been conflicting. A statistically significant seasonal variation of SAH has been found in several studies with peaks in February, April, September, November (Chyatte, et al.), “spring,” “fall,” and “winter,” whereas others have found no significant seasonal variation. Chyatte, et al., found that the seasonal fluctuation of aneurysmal SAH was different for men (peak in late fall) and women (peak in late spring). They also observed admission clusters of patients with aneurysmal SAH following a drop in barometric pressure or maximum daily dewpoint. Moreover, it was suggested that clustering of deaths due to SAH could be seen after the first heavy wetting of snow.