Correspondence

(The Editors do not hold themselves responsible for opinions expressed by correspondents)

Letter to the editor: Role of imaging in the diagnosis of cerebral sparganosis

The Editor,

I read with interest the letter by Wiwanitkit [1] on the paper by Chiu et al [2]. The case report by Chiu et al describes imaging findings in cerebral sparganosis, a rare parasitic infection caused by the larval cestode of the genus *Spirometra*. The authors discuss three important MRI findings in this disease: the tunnel sign, described by Song et al [3] and characterised by columnar or fusiform-shaped hypointense lesions on post-contrast T_1 weighted images and iso- or hyperintense lesions on post-contrast T_2 weighted images (corresponding to the track of motion of a migrating worm); conglomerated ring or bead-shaped lesions, whose walls show hypointense signal on T_1 weighted images, and iso- or hyperintense signal on T_2 weighted images with post-contrast ringlike enhancement [2, 3]; and different stages of the associated inflammatory process [2]. The authors have also described the MR spectroscopy and diffusion-weighted (DW) imaging findings in this case and reported MR perfusion imaging characteristics in a case of cerebral sparganosis [2], showing no definite increase in cerebral perfusion of the lesion, nor in its adjacent area, which might represent a benign characteristic of the lesion, thus helping in the differentiation from a cerebral malignancy [2].

Wiwanitkit commented in the letter [1] that "there is still no clear conclusion on the clinical usefulness of neuroimaging for its diagnosis", and that "in a large case series of sparganosis from Thailand, the final diagnosis of cerebral sparganosis was not obtained from neuroimaging". It should be pointed out that the aforementioned case series [4], carried out by Wiwanitkit, comprises only five cases presenting with cerebral involvement (corresponding to 15% of all 34 cases), 3 of which were published more than 25 years ago (1985 and before). This case series, therefore, seems to be too limited and obsolete to support this conclusion.

The study by Song et al (2007) [3], in contrast, comprises 25 cases of proven cerebral sparganosis, 23 of which were studied by advanced MRI techniques. Song et al concluded that in association with clinical data and enzyme-linked immunosorbent assay (ELISA), diagnosis of cerebral sparganosis could be proposed pre-operatively based on MRI. Chiu et al [2], in their article in the *British Journal of Radiology*, reached the same conclusion. More recently, Kim et al (2010) studied features distinguishing between live and degenerated worms on CT and MRI analysis of cases of cerebral sparganosis. The authors assert in the methods section that a preoperative diagnosis was reached based on clinical data, CT and MRI imaging

findings, and a positive ELISA test [5]. Shirakawa et al, also in 2010, reported a well-illustrated case of cerebral sparganosis, depicting by consecutive MRI scans a lesion which have migrated from the cerebellar hemisphere to the vermis over a period of 7 weeks; the tunnel sign is demonstrated and the authors also comment that this is a characteristic finding [6].

Indeed, studying the role of MRI in the diagnosis of cerebral sparganosis in a cohort of 17 children with this disease, Gong et al [7] found a diagnostic accuracy rate of up to 85.7% after radiologists were trained in the imaging characteristics of this disease. The authors conclude that MRI findings of cerebral sparganosis are specific, although radiologists should be aware of the imaging findings in this condition to make a correct diagnosis.

In conclusion, recent publications seem to illustrate the growing importance of imaging studies in the diagnosis of this rare disease.

U S TORRES, MD

Hospital de Base
São José do Rio Preto Medical School
Avenida Brigadeiro Faria Lima
5544
São José do Rio Preto
SP
15090-000
Brazil
E-mail: usantor@yahoo.com.br

(Received 1 September 2010, Accepted 6 September 2010)

DOI: 10.1259/bjr/13076379

References

1. Wiwanitkit V. Cerebral sparganosis. *Br J Radiol* 2010;83:807.
2. Chiu CH, Chiou TL, Hsu YH, Yen PS. MR spectroscopy and MR perfusion character of cerebral sparganosis: a case report. *Br J Radiol* 2010;83:e31–e34.
3. Song T, Wang WS, Zhou BR, Mai WW, Li ZZ, Guo HC, et al. CT and MR characteristics of cerebral sparganosis. *AJNR Am J Neuroradiol* 2007;28:1700–05.
4. Wiwanitkit V. A review of human sparganosis in Thailand. *Int J Infect Dis* 2005;9:312–16.
5. Kim MS, Yu IK, Chang KH, Han MH, Kim MS, Lee BH, et al. Cerebral Sparganosis: The differential features between live and degenerated worms on CT and MR Images. *J Korean Soc Radiol* 2010;63:1–7.
6. Shirakawa K, Yamasaki H, Ito A, Miyajima H. Cerebral sparganosis: the wandering lesion. *Neurology* 2010;74:180.
7. Gong CG, Wang XY, Liu JK, Yue SJ. MRI diagnosis of cerebral sparganosis in children. *Chin J Contem Pediatr* 2008;10: 481–84.