MRI FEATURES OF EOSINOPHILIC MENINGOENCEPHALITIS DUE TO HUMAN INFECTION OF ANGIOSTRONGYLUS CANTONENSIS

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Objective

To study MRI features of eosinophilic meningoencephalitis due to human infection of angiostrongylus cantonensis.

Materials and Methods

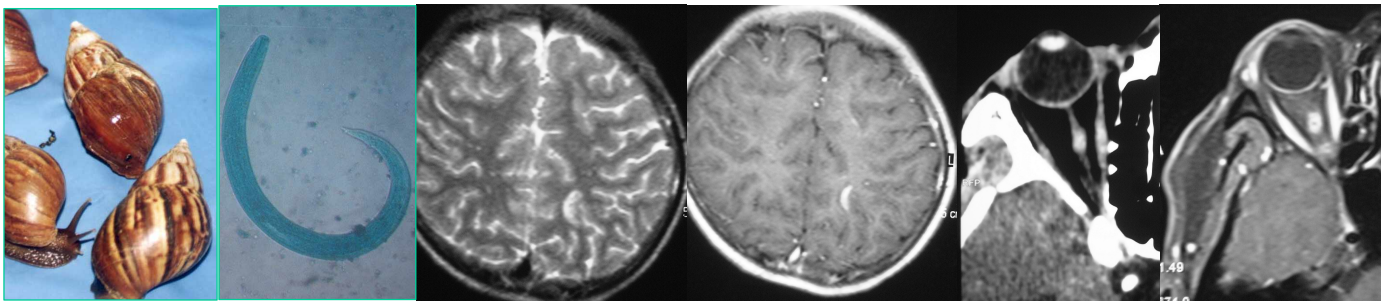
35 patients with angiostrongyliasis cantonensis performed brain MRI examination. The final diagnosis was based on clinical symptoms and results of blood and cerebrospinal fluid (CSF) tests. MR pulse sequences included SE T1-weighted image (T1WI), FSE T2-weighted image (T2WI) and turbo fluid attenuated inversion recovery pulse sequence (FLAIR). After intravenous administration of gadolinium chelate (Gd-DTPA), repeated T1WI was done. MRI features and resolving processes of the lesions in the brain and meninges were analyzed based on initial and follow-up MR images.

Results

Abnormalities on MRI included 23 cases of meningitis, 5 cases of meningoencephalitis (1 of 5 had myelitis of the cervical spinal cord), 6 cases encephalitis and 1 case of optic neuritis. The detailed locations and appearances of the lesions were as following: 1. Brain involvement in 11 cases (including cerebrum in 11, cerebellum in five and brain stem in two), and appeared as iso- or slightly low signal intensity on T1WI, high signal intensity on T2WI and FLAIR images with diffuse or solitary distribution. Multiple or single enhanced nodules in round or oval shape, with diameter ranged from 3 mm to 8 mm, were showed on gadolinium-enhanced T1WI, a few lesions appeared as crescent or stick-shaped enhancement, some lesions did not reveal abnormal enhancement and presented as focal demyelination-like disorders. Local edema around the lesions could be seen. 2. Meningeal involvement in 28 cases, and appeared as diffuse enhancement of the leptomeninges. 3. Solitary nodule and abnormal enhancement in the right optic nerve in 1 case. 4. Mild ventricular enlargement in 7 cases. Follow-up MRI indicated that the lesions mentioned above could resolve in order of focal demyelination-like disorder, meningitis and granulomatous lesions.

Conclusion

Nodular enhancement in the brain and linear enhancement in the leptomeninges were the main findings, crescent or stick-shaped enhancement was the characteristic sign of the disease on gadolinium-enhanced T1WI, and focal demyelination-like disorder without enhancement should be differentiated from other demyelinated diseases.



snails *nematode larvae* *crescent enhancement* *optic granuloma*

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