Outbreak of eosinophilic meningitis associated with drinking raw vegetable juice in southern Taiwan

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摘要

Abstract

The most common cause of eosinophilic meningitis is the rat lungworm Angiostrongylus cantonensis a parasite that is endemic in the southeast Asian and Pacific regions. Outbreaks of eosinophilic meningitis associated with drinking raw vegetable juice are rarely reported, even in regions of endemic infection. We performed a cohort study among Taiwanese with eosinophilic meningitis who drank raw vegetable juice within three months of the onset of the outbreak. Clinical manifestations, laboratory examinations, and outcomes were prospectively followed. Five native Taiwanese met the case definition of eosinophilic meningitis. Specific antibodies to A. cantonensis were detected in the serum of five of the patients and in the cerebrospinal fluid (CSF) of four of the patients. Central nervous system manifestations included headache (n = 5 [100%]), Brudzinski's sign/stiff neck (n = 5 [100%]), hyperesthesia/paresthesias (n = 5 [100%]), and cranial nerve palsy (n = 1 [20%]). Laboratory findings included peripheral (n = 5 [100%]) and CSF eosinophilia (n = 4 [80%]), transient increases in the white blood cell count (n = 1 [20%]), and in serum levels of creatine kinase (n = 1 [20%]). Meningeal enhancement, as well as high signal intensity, at the subcortical white matter on T2 weighted and fluid attenuated inversion recovery images were observed on magnetic resonance imaging in four patients. There were three episodes of relapse during treatment and all resolved with after a lumbar puncture and/or administration of steroids. At the 12-month follow up, all five patients had recovered without neurologic sequelae. Risk factors identification showed that consumption of raw vegetable juice was associated with illness (Pearson correlation test r = 0.867, P = 0.01). There was association between the presence of raw vegetable juice and CSF eosinophilia (Spearman's correlation test r = 0.816, P = 0.004).