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CE - MEDICAL ILLUSTRATION

Systemic cysticercosis

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A 29-year-old Indian man had a witnessed fall 3 days prior, without loss of consciousness or seizures. An X-ray study of the right knee was performed due to persistent pain and limping, which revealed normal bones and knee joint. However, numerous "cigar-shaped" calcific densities were noted within the soft tissues Fig.1. Further clinical evaluation revealed that his friends had observed three episodes of transient loss of consciousness associated with jerking of all four limbs during the prior 2 months, but he had not sought any medical attention.

Clinical examination including both fundi was unremarkable. Blood tests revealed an eosinophil count of 11% (absolute count 0.84×10^9/L; normal 0–0.72×10^9/L). Serum creatinine kinase and aldolase were elevated at 3,200 U/L (normal 20–300) and 26 (1–8 U/L), respectively. Several discrete calcified parenchymal lesions were noted on computed tomography (CT scan) of the brain. Further evaluation with magnetic resonant imaging (MRI) of the brain demonstrated multiple ring-enhancing lesions with peri-lesional edema scattered throughout both cerebral hemispheres Fig 2. He was immunocompetent and his enzyme-linked immunoelectrotransfer blot (EITB) test was positive for cysticercosis. After treatment with Albendazole and steroids, he has remained asymptomatic.

Cysticercosis is a parasitic infection that results from consumption of food contaminated with feces of the carrier of the adult tapeworm (*Taeniasolium*).The eggs of the tapeworm are shed in the stool of the carriers, and contaminate food through poor hygiene. Although, cysticercosis is largely a disease of developing countries, it is becoming a growing problem in many developed nations due to wide-spread migration. Involvement of the central nervous system by cysticercosis is called neurocysticercosis, considered as the single most common cause of adult-onset epilepsy in developing countries [1, 2]. The presence of characteristic "cigar-shaped" calcifications in the thigh and calf muscles in a patient with seizures strongly suggests the diagnosis of neurocysticercosis. However, in endemic regions, systemic cysticercosis and neurologic manifestations may co-exist independently. Demonstration of cysticercosis outside the brain only provides circumstantial evidence in favor of the diagnosis of neurocysticercosis. Definitive diagnosis of extraneural cysticercosis can be established only by histologic demonstration of the parasite, direct visualization of a cysticercus in the anterior chamber of the eye, or a positive EITB test [3]. Our patient had disseminated cysticercosis with characteristic lesions in the soft tissues and brain along with a positive EITB test.

Although, leg pain and the elevated muscle enzymes could have occurred due to the fall, we believe that inflammation of intramuscular cysticerci contributed to the persistent leg pain of our patient. Definitive treatment resulted in rapid amelioration of his muscle pain within 4 days. Furthermore muscle enzymes, repeated after 3 days became normal. He has remained seizure-free during the past 7 months. Our case serves as a reminder that patients with soft tissue cysticercosis should undergo brain imaging, if they present with neurological abnormalities.

Conflict of interest None.

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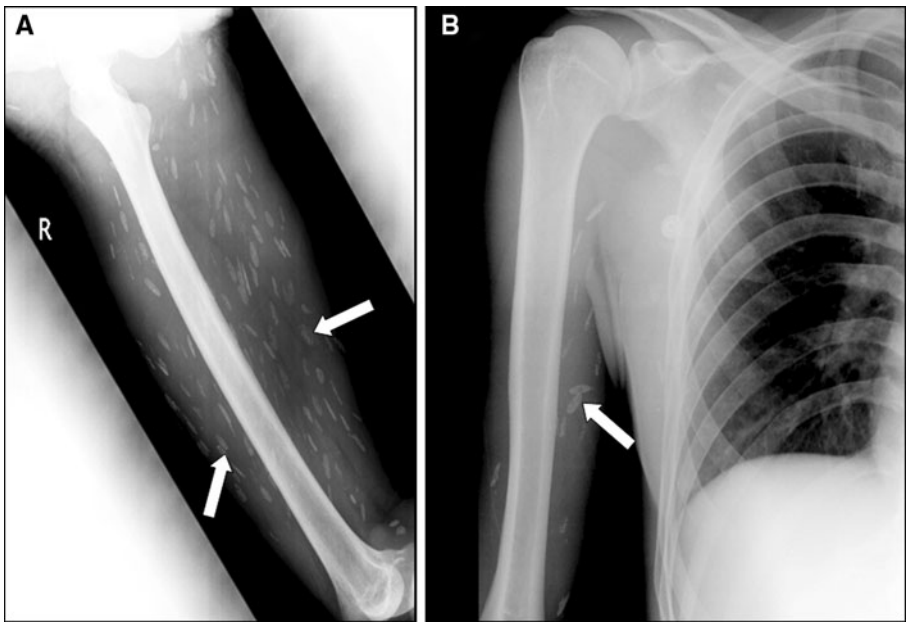

Fig. 1 Multiple "cigar-shaped" calcific densities are noted in the soft tissues in the right-thigh (**a**) and right-arm (**b**)

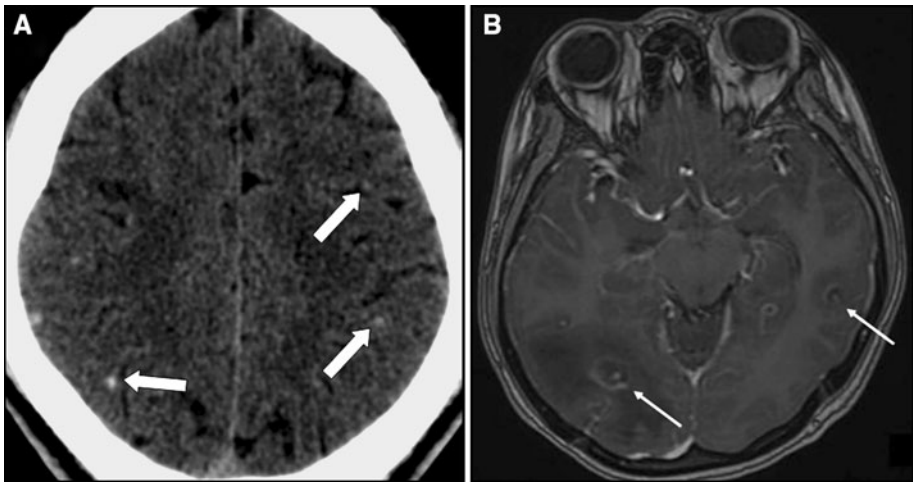

Fig. 2 Unenhanced brain computed tomography (**a**) shows multiple small hyperdense lesions in both cerebral hemispheres. Magnetic resonant imaging of the brain (**b**) reveals multiple ring-enhancing lesions scattered throughout both cerebral cortices at the grey-white junction

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