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## Letter to the Editor

### Myelitis and tenosynovitis attributed to toxocariasis



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A 47-year-old patient was hospitalized in the neurology department for a variety of medical issues that had been worsening over the two previous years, including paresthesia of the lower limbs, difficulty walking and genito-sphincter disorders (saddle anesthesia and urinary urgency). Spinal MRI revealed myelitis in Th9 and Th10 (Fig. 1). Brain MRI was normal. Laboratory testing returned C-reactive protein levels of 80 mg/mL. Additional lab tests (NFS, protein electrophoresis, LDH, beta2-microglobulin, vitamin B9 and B12 assays, CMV, HIV and EBV serology, TPHA-VDRL) were unremarkable. The only remarkable element was serology testing for toxocariasis which was positive with ELISA and further confirmed with Western Blot. Immunodiagnosis was carried out on cerebrospinal fluid and return positive by Western Blot procedure, but negative with Elisa.

A few days after being admitted to hospital, the patient experienced swelling of the index finger of the left hand and the ring finger of the right hand. Tenosynovitis of the flexors was diagnosed with a clinical examination and ultrasound imaging (Fig. 2). All diagnostic tests came back negative (blood cultures, urine tests, urethral sampling, PCR test for chlamydia, tests for rheumatoid arthritis, anti-CCP antibodies, anti-nuclear antibodies, anti-cytoplasm antibodies, salivary gland biopsy). There was no evidence of gout. NSAIDs were only moderately effective.

Given the serological results, and in the absence of any other objective cause, a hypothesis of parasites was raised and treatment with albendazole was initiated for a duration of 21 days. The patient's tenosynovitis and neurological disorders improved rapidly. When the treatment was finished, the clinical examination showed no signs of tenosynovitis or arthritis, though the ultrasound images showed low grade tenosynovitis of the flexor of the 4th right finger (grade I, negative Doppler versus grade 3, grade 3 Doppler before treatment). Six months later, the joint examination was normal as well as the neurological.

Toxocariasis can be responsible for a classic *visceral larva migrans* syndrome (fever, asthenia, digestive symptoms, and hepatomegaly) or, in adults, lung, digestive, blood, and neurological conditions [1]. Though rare, myelitis is a classic sign of toxocariasis. The possibility of parasites should therefore be investigated in cases of myelitis, even in the absence of blood or cerebrospinal eosinophilia, which may be transient.



**Fig. 1.** Spinal MRI sagittal (a) and transversal (b) T1 – weighted image with gadolinium injection: hypersignal enhanced by gadolinium (white arrow) level of Th9-10 suggested myelitis.

On the other hand, arthritis or tenosynovitis are exceptional and rarely described in the literature [2–5]. The diagnosis of parasites is therefore particularly difficult in these cases, especially since the



**Fig. 2.** Ultrasound image of the index of the left hand (white star: flexor tendon; black arrow head: tenosynovitis).

prevalence of seropositivity can be high, especially in rural areas where it can reach 14% in the ELISA technique [6], hence the interest of confirming diagnosis with Western Blot. The tenosynovitis presented by our patient met Doury's criteria for parasitic rheumatism [7], to which we should add the association with myelitis. Without the presence of myelitis, it is likely that the hypothesis of toxocarosis would have been overlooked, and the patient would not have received appropriate treatment. This observation may give clinicians useful additional information to avoid diagnostic and therapeutic errors when dealing with cases of toxocarosis, and to prescribe appropriate curative treatment.

#### Disclosure of interest

The authors declare that they have no competing interest.

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