

Neurotoxocarialis: A Rare or Neglected Disease?

Department G.F. Ingrassia, Section of Neurosciences, University of Catania, Italy

Alessandra Nicoletti, Department G.F. Ingrassia, Section of Neurosciences, University of Catania, Via Santa Sofia 7895123, Catania, Italy, Tel:

of en supporting this possible positive association between epilepsy and *T. canis* seropositivity [19-32]. This association was also confirmed by a recent meta-analysis including seven cases-control studies, suggesting a possible increased risk of developing epilepsy among people exposed to *T. canis* infection [32]. Even if seizures have been related to the presence of single or multiple toxocara lesions found in cases described in literature, the epileptogenesis of helminth infections is largely unknown [33-35]. Helminths, in fact, can cause seizures by producing focal lesions, but an antibody-mediated epileptogenesis cannot be ruled out. As well known, helminths determine a conspicuous immune activation including the production of autoantibodies that, if directed against neuronal antigens, may cause epilepsy [33]. From this point of view toxocariasis could also increase the risk of developing epilepsy due to masked mechanisms, despite the absence of detectable focal cerebral granuloma [2].

As a matter of fact, despite toxocariasis is considered the most frequent helminthic infection worldwide, neurotoxocariasis is largely unknown and diagnosis is rarely sought leading to a possible underestimation of its real burden.

References

1. Magnaval JF, Michault A, Calon N, Charlet JP (1994) Epidemiology of human toxocariasis in La Reunion. *Trans R Soc Trop Med Hyg* 88: 531-533
2. Nicoletti A (2013) Toxocariasis. *H and B Clin Neurol* 114: 217-228
3. Dent JH, Nichols RL, Beaver PC, Carrera GM, Stagers RJ (1956) Visceral larva migrans; with a case report. *Am J Pathol* 32: 777-803
4. Moore MT (1962) Human *Toxocara canis* encephalitis with lead encephalopathy. *J Neuropathol Exp Neurol* 21: 201-218
5. Beautyman W, Beaver PC, Buckley JJ, Wolf AL (1966) Review of a case previously reported as showing an ascarid larva in the brain. *J Pathol Bacteriol* 91: 271-273
6. Schochet SS (1967) Human *Toxocara canis* encephalopathy in a case of visceral larva migrans. *Neurology* 17: 227-229
7. Hill IR, Denham DA, Scholtz CL (1985) *Toxocara canis* larvae in the brain of a British child. *Trans R Soc Trop Med Hyg* 79: 351-354
8. Mikhael NZ, Montpetit VJ, Orizaga M, Rowsell HC, Richard MT (1974)