

When it looks like a brain tumor, but it is Lyme disease

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Ezequiel and colleagues report on the case of a 9-year-old boy from Portugal who was diagnosed with pseudotumor cerebri due to Lyme disease. The child “was admitted with daily pulsatile frontotemporal headache, pallor, photophobia and phonophobia, without night awakening, vomiting or visual changes,” writes Ezequiel in the *British Medical Journal Case Reports*. [1]

His neurological examination revealed papilloedema (swelling of the optic disc) but was otherwise normal. Brain images were unremarkable. Serologic, PCR and cultural testing ruled out bacterial and viral agents including *Mycoplasma pneumoniae*, *Epstein-Barr virus*, *Cytomegalovirus* and *Enterovirus*. So the boy was prescribed acetazolamide (a “water” pill).

However, ELISA and Western blot results were positive for *B. burgdorferi* antibodies, the bacteria causing Lyme disease. “The diagnosis of neuroborreliosis was assumed,” explains Ezequiel “and a 21-day course of intravenous ceftriaxone was started.” The boy made a complete recovery.

According to Ezequiel, the boy met the clinical criteria for pseudotumor cerebri, which is defined as including “symptoms and signs isolated from those produced by increased intracranial pressure, such as headache, papilloedema, vision loss and elevated intracranial pressure with normal CSF composition.”

There are many causes of pseudotumor cerebri, Ezequiel explains, so the differential diagnosis is vast and includes “infectious diseases such as meningitis, otitis media and mastoiditis, obstruction of venous drainage such as venous sinus thrombosis and hyperviscosity, endocrine disorders, obesity, nutritional disorders such as hypervitaminosis A and medications.”

The authors highlight several key points:

- Pseudotumor cerebri can be the sole manifestation of neuroborreliosis.
- A history of tick bite is often absent in many cases.
- Central nervous system involvement can occur with no cutaneous manifestations.
- Borrelia infections should be actively investigated in children with central nervous system disease even in non-endemic areas.

Related Articles:

[Child with Lyme disease presenting as pseudotumor cerebri](#)

[Case report: Neuroborreliosis more common in children](#)

[What happens to the brain during acute Lyme neuroborreliosis?](#)

References:

1. Ezequiel M, Teixeira AT, Brito MJ, Luis C. Pseudotumor cerebri as the presentation of Lyme disease in a non-endemic area. BMJ Case Rep. 2018;2018.

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