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# Neurological complications of Lyme borreliosis



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**Background:** Lyme borreliosis is a multi-systemic disease caused by *Borrelia burgdorferi*. A complete presentation of the disease on child is an extremely unusual observation, in which a skin lesion follows a tick bite, the lesion itself is followed by heart and nervous system involvement, and later on by arthritis; late involvement of the eye, nervous system, joints and skin may also occur.

**Methods & Materials:** We did a retrospective study of hospitalized cases with borreliosis in children on National Institute of Infectious Diseases "Prof. Dr. Matei Bals" in the period 2005 - 2013, which we followed the clinical manifestation. During this period in pediatric wards of our institute were hospitalized a total of 38 cases of children borreliosis.

**Results:** We observed that clinical manifestations of the child are polymorphic: most have clinical picture of erythema migrans, the rest involving various clinical forms (arthritis, optic neuritis, diplopia, facial paresis, hemiparesis, polyradiculonevritis). 23.6% of cases have neurological complications.

We present two cases of borreliosis in children: the first case is a neuroboreliosis complicated with right hemiparesis and aphasia, and the second case is a borreliosis complicated with optic neuritis, papilledema, diplopia and psychiatric disorders. Both cases were treated with Ceftriaxone for one month, corticosteroid and symptomatic therapy with favorable evolution and healing.

**Conclusion:** Borreliosis is a multisystemic condition with a polymorphic clinical presentation which can present an array of clinical forms: cutaneous, musculoskeletal and articular manifestations, cardiac injury and CNS involvement. The correct diagnosis and proper therapy are based upon a detailed clinical examination with the discovery of the primary lesion and laboratory studies.

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## Concomitant cryptococcal and tuberculous meningitis in a patient with systemic lupus erythematosus



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**Background:** Infection is a major cause of morbidity and mortality in patients with systemic lupus erythematosus (SLE). Cryptococcal and tuberculous meningitis are opportunistic infections that can be fatal, especially among immunocompromised patients. Concomitant central nervous system infection with cryptococcosis and tuberculosis (TB) is unusual but has been reported in immunodeficiency states such as infection with human immunodeficiency virus (HIV). However, this is very rare in SLE patients, with just one published case in the literature.

**Methods & Materials:** A 23 year old female patient with a two-year history of SLE, maintained on low dose prednisone and hydroxychloroquine, presented with one week history of intermittent dizziness, nape pain, headache, vomiting and fever. On admission, she was alert and oriented. She was normotensive, tachycardic, afebrile, with alopecia, malar rash, tenderness on the acromioclavicular-sternoclavicular joint and otherwise unremarkable systemic findings. She had supple neck, grade two and three papilledema on the right and left respectively and horizontal nystagmus. There was no cranial nerve, motor and sensory deficits, no cerebellar, Babinski sign or clonus elicited.

**Results:** Pertinent work-up include anemia and a communicating hydrocephalus with cortical calcifications on cranial computed tomography. Gram stain and cultures of lumbar cerebrospinal fluid were negative for bacteria but cryptococcal india ink test and TB polymerase chain reaction were positive.

She was treated with quadruple anti-Koch's with vitamin B, intravenous amphotericin B which was later shifted to oral fluconazole, mannitol and corticosteroids with resolution of presenting symptoms. She was discharged after a month with successful recovery on follow-up visits.

**Conclusion:** We presented a unique case of concomitant cryptococcal and TB meningitis in a patient with SLE. This case highlights the need for clinicians to have a high index of suspicion for potentially fatal infectious complications especially in lupus patients presenting with neurologic complaints. Tuberculosis and cryptococcal co-infection should always be entertained especially in countries with endemic TB like the Philippines. Skills in identifying subtle neurologic findings should be improved and vigilance in detecting probable serious infections in our patients with SLE can lead to timely and life-saving treatment.

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