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Lyme Disease and Neurologic Manifestations in a District Hospital in Portugal

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Introduction

Lyme disease (LD):
- caused by Borrelia *burgdorferi sensu lato's* species.
- wide presentation and severity.
- often a neglected diagnosis.

Neuroborreliosis (NB) occurs in 10-15%. This study evaluate NB (clinical manifestations, treatment and evolution) in a district acute hospital in Portugal.

Materials and Methods

- Identified patients with Borrelia *burgdorferi* antibodies detected by ELISA, confirmed by Immunoblot and with neurological manifestations attributed to the disease.
- Jan 2015 – April 2022 in Local Health Unit - Matosinhos.
- Data collected using Clinidata®XXI and SClínico® software.

Results

- encephalitis (n=5)
- optic neuropathy (n=5)
- peripheral neuropathy (n=5)
- VII cranial nerve palsy (n=4)
- meningitis (n=3)
- myelitis (n=2)
- III cranial nerve palsy (n=1)
- meningoradiculitis (n=1)
- radiculitis (n=1)
- stroke (n=1)

➢ 21 patients; 71.4% female; mean age 50.8 (24-89) years old.

- No erythema migrans or arthralgias.
- ECG (13 patients): 1 intraventricular conduction block.
- Lumbar puncture (15 patients): 2 inflammatory cerebrospinal fluid.

Therapeutic strategies → Ceftriaxone 2g/day: 28 (n=4), 21 (n=5), 14 (n=3), 10 (n=1) days.
Doxycycline 100mg 12/12h: 28 (n=4), 21 (n=2), 14 (n=2) days.

1 optic neuropathy (ceftriaxone 14 days), 2 VII cranial nerve palsy (1 doxycycline 14 days and the other 28 days), 2 peripheral neuropathy (both ceftriaxone 21 days), 1 stroke (ceftriaxone 14 days).

No disease progression.

1 encephalitis (ceftriaxone 21 days), 1 optic neuropathy and 1 peripheral neuropathy (both doxycycline 28 days).

Clinical resolution	Clinical improvement	Post-Lyme disease syndrome	No clinical improvement	Death
6 patients (28.6%)	10 patients (47.6%)	1 patient (4.8%)	3 patients (14.3%)	1 patient (4.8%)

→ not related with LD.

1 peripheral neuropathy (ceftriaxone 28 days), 1 meningitis + optic neuropathy (ceftriaxone 28 days), 2 optic neuropathy (1 doxycycline 14 days and the other 21 days), 1 radiculitis (doxycycline 21 days), 1 VII cranial nerve palsy + encephalitis + myelitis (doxycycline 28 days), 2 encephalitis (1 ceftriaxone 10 days and the other 21 days), meningitis + III cranial nerve palsy + myelitis (ceftriaxone 14 days), meningoradiculitis (ceftriaxone 21 days).

Conclusions

- Non-negligible prevalence of NB.
- Variability of clinical presentations that requires a high suspicion in the differential diagnosis.
- Heterogeneity of therapeutic regimens reflects the absence of a well-defined treatment.