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Emily Pollack MD
Lehigh Valley Health Network, Emily.Pollack@lvhn.org

Elizabeth A. Guju BS

Kris Rooney MD
Lehigh Valley Health Network, kris.rooney@lvhn.org

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Travel Can Be a Real "Pain in the Neck": A Rare Presentation of European Lyme Neuroborreliosis

Emily Pollack, MD,[1] Elizabeth A. Guju, BS,[2] Kris Rooney, MD[1]

[1]Lehigh Valley Reilly Children's Hospital, Allentown, PA, [2] University of South Florida College of Medicine

INITIAL HISTORY/ PRESENTATION

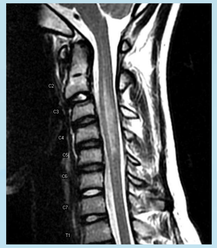
A previously healthy 12-year-old male with no recent trauma presented with one week of neck pain and stiffness accompanied by hand tremors. Travel history was pertinent for recent return from several months in Poland. Review of systems was otherwise negative.

PHYSICAL EXAM

On presentation, the patient was afebrile with normal vital signs and normal mentation. Exam was notable for pain with forward flexion of the neck and limited range of motion with lateral rotation. Sensation, strength, coordination, reflexes and cranial nerves were all intact. Hand tremors were notable with arms extended outward, more prominent on the left.

DIAGNOSTIC EVALUATION

CBC and CMP were unremarkable. Serum Lyme titers were weakly positive but confirmatory western blot testing was negative. MRI of the brain and spine revealed abnormal enhancement on T2 images within the cord at the level of C2-C5, consistent with inflammatory or infectious myelitis. CSF studies revealed elevated WBC and protein with negative cultures, negative Lyme CSF index, and negative meningitis/encephalitis PCR. Aquaporin-4 Receptor Ab, MS Profile, and MOG Ab profile were all normal.



Expansile T2 hyperintense lesion in the cord from C2-C5 with linear abnormal enhancement and prominent enhancement of nerve roots on MRI.

DIAGNOSIS

Due to recent travel to Poland and ongoing clinical suspicion for neuroborreliosis, additional testing for European Lyme disease (C6 Peptide Ab and European Lyme Ab screen) was sent and empiric doxycycline was initiated. Testing returned positive, ultimately confirming the diagnosis of European Lyme neuroborreliosis.

DISCUSSION/CONCLUSION

Traditional testing for Lyme disease in the United States did not detect our patient's infection. European Lyme disease is often caused by B. afzelii or B. garinii and therefore the immunoblots used to detect antibodies differ from those used in North America (where B. burgdorferi is the most common agent). European neuroborreliosis commonly presents with a triad of lymphocytic meningitis, cranial neuropathy, and painful radiculitis known as Bannwarth syndrome. In pediatrics, North American neuroborreliosis most commonly presents as a peripheral facial nerve palsy followed secondly by aseptic meningitis. Other cranial neuropathies and transverse myelitis have rarely been reported. In our patient, neck pain, neck stiffness and hand tremors were the only complaints. Left untreated, advancement to chronic low-grade encephalitis is more likely to occur in European Borrelia genospecies. Therefore, a high index of suspicion, understanding of global microbial variances, and timely administration of appropriate antimicrobials is critical.

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