

It's Always Lyme

Suzanne Al-Said D.O., Tin Bui D.O., Jessica Mayer D.O.

Department of Family Medicine, Suburban Community Hospital, East Norriton, PA

Background

- Lyme disease, is the most common tick-borne disease across the US, Canada, and much of Europe with broad presentations and manifestations due to large variety of possible infecting species.
- It is caused by *B. burgdorferi* and less commonly *B. mayonii*, transmitted by *Ixodes* ticks.
- Patients with prior infections may present with symptoms later on, further complicating the clinical picture.

Case Report

Pt is a 49-year-old male (WC) who presented to the Suburban Community Hospital Emergency Department with a complaint of left-sided facial droop that started in the morning after he woke up. C also complains of difficulty chewing and drinking. He notes significant drooling and an inability to fully close his left eye. He has a significant PMHx of tobacco abuse, anxiety, and depression.

On presentation to the ED, patient was hypertensive with BP ranging from 142/117 to 164/102. Labs were only significant for mildly elevated K at 5.4 as well as mildly elevated Ca at 10.6. Stroke workup was initiated and head CT was negative for acute intracranial hemorrhage. Lyme Antibodies with Western Blot reflex were ordered and patient was discharged with a diagnosis of Bell's Palsy. He was prescribed Valtrex, Prednisone, and an ophthalmic ointment. On Day 8 of symptoms, WC presented for hospital follow-up with a new complaint of severe jaw and neck pain.

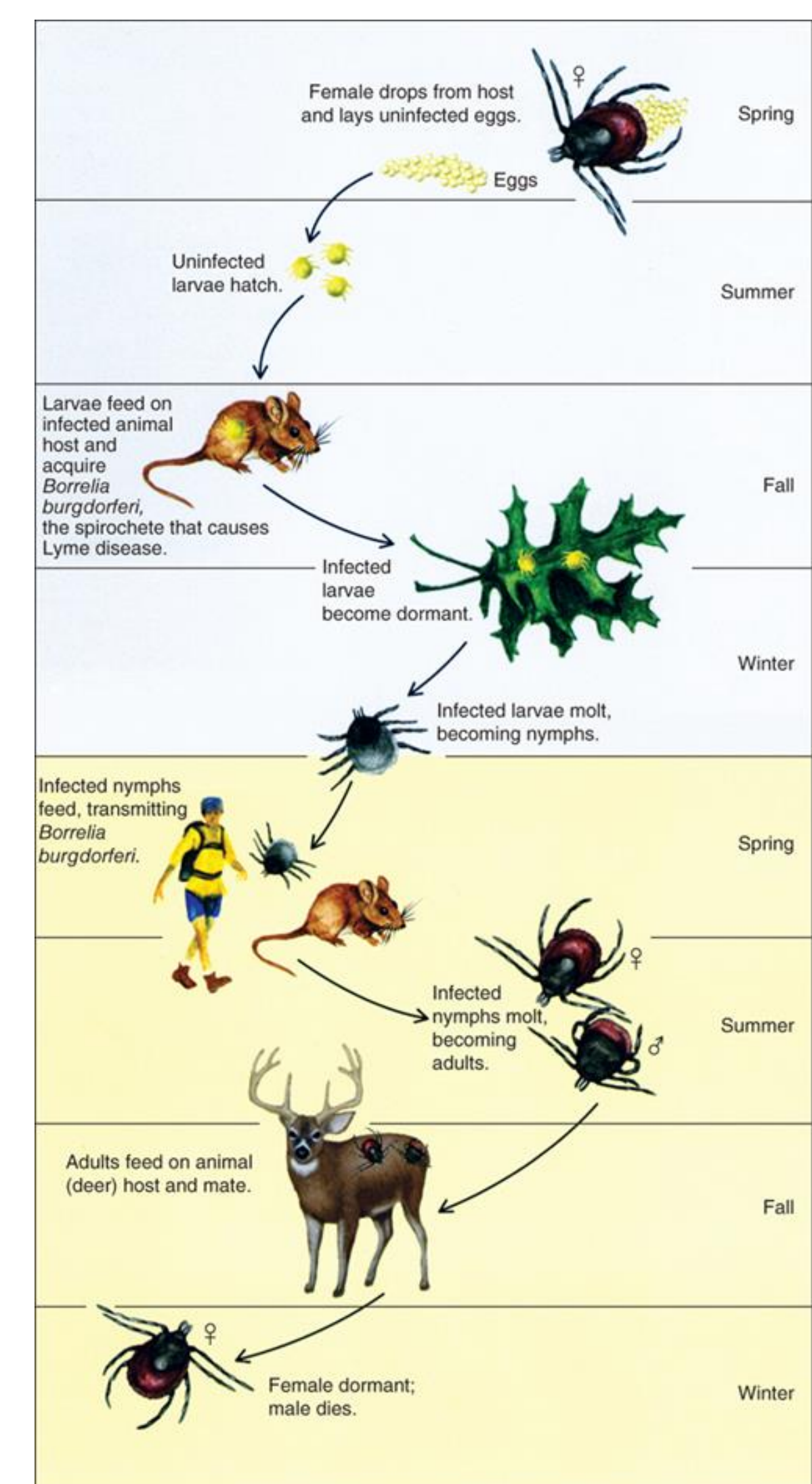
At follow-up, lab studies were remarkable for Lyme IgG/IgM Ab of 1.69. WC was prescribed Doxycycline and was advised to continue with the Valtrex and ophthalmic ointment. Upon evaluation, patient was found to have both Right and Left AC1 mandible tender points with mandibular deviation, and was diagnosed with Temporomandibular Joint Syndrome. He was treated with Osteopathic Manipulative Treatments using both muscle energy and soft tissue techniques. Patient reported immediate improvement.

Vitals

* Vital Signs (last 2 days) before discharge

| Date/Time | Temp | Pulse | Resp | BP | SpO2 |
|-------------------|-------------|-------|------|-----------|------|
| 08/14/19 1145 | — | — | — | 142/117 † | 100 |
| 08/14/19 1115 | — | 76 | 17 | 152/101 † | 100 |
| 08/14/19 1100 | — | 73 | 22 | 145/90 | 98 |
| 08/14/19 1045 | — | 81 | 21 | 155/97 † | 98 |
| 08/14/19 1030 | — | 75 | 20 | 152/92 † | 98 |
| 08/14/19 09:55:01 | — | 76 | 12 | — | 99 |
| 08/14/19 0951 | — | — | — | 164/102 † | — |
| 08/14/19 0950 | 98.5 (36.9) | 86 | 16 | 164/102 † | 100 |

Labs/Imaging



| Basic Metabolic Panel | |
|-----------------------|------|
| BUN | 23 |
| BUN/Creatinine Ratio | 21 |
| Calcium | 9.2 |
| Carbon Dioxide, Total | 25 |
| Chloride | 103 |
| Creatinine | 1.11 |
| eGFR If African Am | 90 |
| eGFR If NonAfrican Am | 78 |
| Glucose | 87 |
| Potassium | 3.9 |
| Sodium | 143 |

| OTHERS | |
|-----------------|----------|
| Lyme IgG/IgM Ab | 1.69 * † |

Image:
 1. *Borrelia burgdorferi*, the spirochete that causes Lyme disease

References

- Ackermann R, Horstrup P, Schmidt R. Tick-borne meningopolyneuritis. *Yale J Biol Med.* 1984 July-Aug;57(4): 485-90
- May MK. Differential diagnosis of facial nerve palsy. *Otolaryngol Clin North Am.* 1991;24(3): 613
- Peitersen E. The natural history of Bell's palsy. *Am J Otol.* 1982;4(2): 107
- Clark JR, Carlson RD, Sasaki CT, Pachner AR, Steere AC. Facial paralysis in Lyme disease. *Laryngoscope.* 1985;95(11): 1341
- Ryan KJ. Spirochetes. *Sherris Medical Microbiology.* McGraw-Hill.

Discussion

- This is a case that demonstrated how a patient with a somewhat commonly seen diagnosis ended up benefiting from Osteopathic Manipulative Medicine. Reports show that Lyme is the most common tick-borne disease in the United States and facial nerve palsy is the most common cranial neuropathy secondary to Lyme disease.
- This patient was diagnosed with Lyme disease following exposure to deer in his brother's yard where he worked as a landscaper. He developed a facial droop and subsequently developed neck and jaw pain. This is frequently seen in patients with Bell's Palsy, along with findings such as an inability to close the eye, eyebrow sagging, decreased tearing, and loss of taste.
- Based on our structural exam, the patient was diagnosed with a somatic dysfunction. We felt that he may benefit from OMT in the outpatient setting. Muscle energy is a technique in which the patient's muscles are actively used against the physician's applied force. Soft tissue technique involves stretching and pressure with monitoring of tissue response. These techniques helped to decrease the tension in the patient's bilateral mandibles.

Conclusion

Patient was diagnosed with Bell's Palsy secondary to Lyme disease. He subsequently developed TMJ Syndrome which was treated with OMT. WC noted significant improvement in symptoms following treatment and was advised to return in one week for continued treatments. This case demonstrated an interesting complication from Lyme's disease, which was easily and effectively addressed with OMT.

Patient Care Team

Suburban Community Hospital Family Medicine -
 Dr. S Al-Said, DO; Dr. T Bui, DO; Dr. J Mayer, DO



Suburban Community Hospital

Extraordinary People. Extraordinary Care.