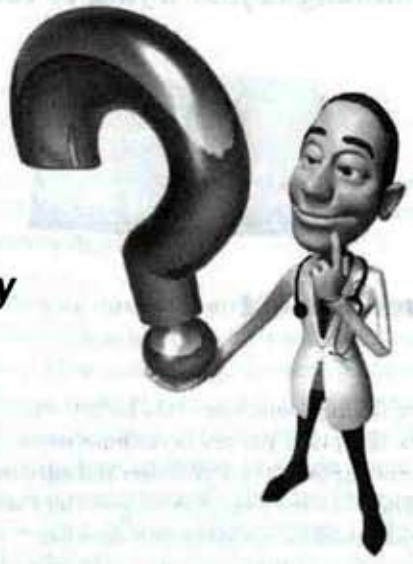
Treating Viral Infections Coupled with TBD's



Powassan virus and candida can complicate Lyme treatment strategy

By Gerald Simons, PA-C

Since my last article, there has been a great deal of excitement regarding the potential for persistent viral infections in patients with chronic tick-borne disease. My last article focused on XMRV. Significant literature from the chronic fatigue community supports the fact that XMRV is expected to be a major player in the future treatment of CFS and related diseases, including Lyme.

Studying viruses is a complex job. Overall, we know that there are scores of viral mutations. Viruses constantly change, and there are many more viruses yet to be discovered. It is very possible that a patient may have more than one type of virus, or a virus that continually changes in the body. Combine this with the bacteria, parasites and filarial diseases transmitted by ticks, and it is easy to understand why patients can be ill for such a long period of time.

Treatment options

How are viral infections currently being treated? There are many options, but I am using amantadine, high dose vitamin C (best if combined with salt), and low dose naltrexone. In my experience, these have shown great promise in combating those viruses that we can easily document (EBV, Parvovirus, etc) as well as those that we cannot document so easily (XMRV). Recently, I have seen several patients respond well to valacyclovir combined with the amino acid L-lysine.

Powassan virus

As has been well documented, certain ticks carry the *Powassan virus*, causing a tick-borne encephalitis. Refer to a microbiology resource or even do a quick Internet search and you will discover several interesting features of the Powassan virus:

1. It is only carried by ticks.
2. It has the most severe effects in children.
3. It can cause encephalitis symptoms, most commonly "brain fog," a persistent "drunk" feeling, headache, memory changes, and other neurologic symptoms. Could a patient with "brain fog" who does not respond to standard therapy (vasodilators), but has a normal brain SPECT, actually be infected with Powassan?
4. It is in the family of flavivirus. which includes West Nile virus and hepatitis C. This is most fascinating. Could patients who report, "I have been sick since a mosquito bite," actually have Powassan or a chronic form of West Nile? XMRV is a totally different virus family and may be involved as a "co-infecting virus." Hepatitis C is a 'cousin' of Powassan, and we all know how difficult it is to treat Hepatitis C. Many patients with hepatitis C suffer for decades; others who carry

the hepatitis C virus may have a low viral load and are not symptomatic. Still other patients with hepatitis have a high viral load but still are not symptomatic. This describes many Lyme patients as well. Powassan as a primary or a co-infection could easily impair the body's ability to combat other infections.

5. In 1997, a close genotype of Powassan, called the Deer Tick Virus, was discovered,. It also causes neurologic symptoms. Could it be that Powassan is mutating into new strains? There are many unanswered questions.

6. According to the 17th edition of the famous textbook *Harrison's Principals of Internal Medicine,* the "Powassan virus is a member of the tick-borne encephalitis virus complex and is transmitted by *I. cookei*. Other ticks may transmit the virus in a wider geographic area, and there is some concern that *I. scapularis*, a competent vector in the laboratory, may become involved as it becomes more prominent in the United States. Patients with Powassan encephalitis (many of whom are children) present in May through December after outdoor exposure and an incubation period thought to be about one week. Powassan encephalitis is severe, and sequelae are common." ❧

7. The virus can be transmitted in as little as 15 minutes of tick attachment (Am. J. Trop. Med. Hyg., 71(3), 2004, pp. 268-271). I hope everyone that says "ticks have a low transmission rate if removed within 24 hours" will understand that even a short attachment time is risky. It is important to note that Powassan virus has a fast transmission time, but will incubate in the body for a week. If a tick bites you and falls off in a short period of time, but you do not get ill until a week later, then the potential for widespread infection is possible, even in those who never remember a bite.

8. My *personal* experience indicates that in patients with long term neurologic effects thought to be viral related, high dose vitamin C and rotating antivirals are required to attack the virus. Antivirals should be given until a positive change is noted; once a plateau is noted, then the antivirals should be rotated again. Immune function should be monitored closely (complement, immunoglobulins, WBC, etc.).

Powassan may have symptoms very similar to the neurologic effects of Bartonella. These particular viral syndromes rarely cause the systemic effects of Bartonella, including gastritis, tender nodules under the skin, and sore soles of the feet. These systemic symptoms, as well as a serum VEGF score, can help direct proper therapy. Patients with XMRV, in my opinion, have more flu-like symptoms, including fatigue and exhaustion. Several patients I have seen have symptoms of all three.

Candida

Do not forget that Lyme may continue to be very much in the picture, and should be continually assessed through careful review of symptoms as well as a complete physical and lab evaluation. Overall, about 50% of my most chronic, most ill patients have some symptoms of a chronic virus. In the other 50%, I see significant levels of Candida in the system.

Many patients with long standing illness have had years of antibiotics, very often without breaks or windows to reassess symptoms. For those patients who show a weak immune system (low CD 57 counts, low complement levels, decreased immunoglobulins, etc), I evaluate them carefully for Candida. This has been studied and published by the Jeffery Modell Foundation (also known as the National Primary Immunodeficency Center). Their studies show that in patients who have a documented weak immune system, testing for Candida is beneficial. The most recent data show that Candida should be tested via a skin provocation test (see my 2009 article on this approach). I avoid blood and stool testing for yeast, as the skin test is much more accurate and gives an immediate result so treatment can begin quickly.

Candida acts almost like a cyst, 'covering' the germ and preventing and even weakening the antibiotic and creating more yeast! The most aggressive yeast protocol involves IV voriconazole and similar drugs. The mildest is probiotics and oral nystatin. A strict anti-Candida diet is required for success.

In patients who have active Lyme or co-infections, these symptoms may actually flare during Candida treatment. As Candida is destroyed, I have seen patients develop the foot pain, skin nodules and headache seen in bartonellosis acute swollen joints of Lyme, and the soaking sweats of babesiosis. As the symptoms flare, they are treated, often with more success than before Candida was treated.

Conclusion

Attacking viral infections and yeast, while juggling exercise, diet, cysts, biofilms, and co-infections (and watching for further tick bites) has helped many patients. Although more research is required, I have a very positive outlook for future treatment successes.

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Jerry currently practices in New York. He was a PA with Dr. Joseph Burrascano from 1995 through 2006. Any health decisions should be discussed with your provider.