

## Co-Infections

Co-Infections with multiple viruses, bacteria and fungus infections are a common problem in over 75% of people with moderate to severe chronic fatigue and muscle, joint aches. It seems that when the immune system is run down from one infection it is more likely to get another viral, bacterial or fungal infection on top of it. Often there can be as many as 2-4 infections at a time in patients with severe chronic fatigue and aching over a year's duration. Frequently, at least half of these multiple infections need to be treated in order to get the patient better. The immune cells seem to lose their energy fighting one infection, thus allowing another infection to come in on top of it.

The two most common infections that start this cycle seem to be Chlamydia Pneumonia, also known as Chlamydophilia Pneumonia (the non-sexually transmitted type of Chlamydia that causes bronchitis and pneumonia), as well as its "close cousin" Mycoplasma Pneumonia. Both of these infections require the same groups of 3-4 antibiotics to kill them. They are very small bacteria without a cell wall and are almost as small as a virus, and for that reason they tend to need to slip inside the cells in order to reproduce. They are called "cell wall deficient bacteria" because they cannot reproduce and multiply unless they invade the cells of your muscles, nerves, organs and skin to "pirate" the cells' energy stores and to multiply using the cell wall of the infected patient as protection from the antibodies in the bloodstream.

A very brilliant infectious disease physician and researcher named Charles Stratton, M.D., who is also a Microbiologist at Vanderbilt University in Tennessee, studied these bacteria in around 2001 – 2002 after several doctors told him that many patients with chronic fatigue and chronic atherosclerotic cardiovascular disease (patient with heart attacks and strokes) had high levels of antibodies to Chlamydia Pneumonia. Dr. Stratton began to grow the bacteria in his lab and noted under the microscope that they produced two types of eggs (called spores) and that the eggs (spores) were not killed by the same antibiotics as were used to kill the adult infection. As a matter of fact, each egg (spore) had a different coating that required different antibiotics to penetrate and kill it so that 3 different antibiotics with different effects were required to get rid of all 3 forms (the adult form and 2 types of eggs). If only 1-2 antibiotics were given, then the infection would come back within 3-12 months.

You would think that this information would have led to numerous studies as these cell wall deficient bacteria are a major cause of chronic sinusitis, bronchitis, chronic joint and muscle aches, chronic fatigue as well as Irritable Bowel symptoms, such as heartburn, gas, bloating, constipation and diarrhea. However, all physicians, especially the pediatricians, infectious disease and pulmonary (lung) specialist, were taught in medical school that bacterial resistance can occur with prolonged antibiotic therapy and that antibiotics should not be used unless there is serious disease to prevent resistance. This is true when it comes to bacteria with a cell wall that reproduces outside the cell walls like Staph and Strep but it is NOT TRUE when it comes to infections like Mycoplasma, Chlamydophilia and Lyme disease that reproduce inside a person's cells. Therefore, more antibiotics are actually better to PREVENT resistance by simultaneously treating all

3 forms of the Chlamydia and Mycoplasma germs in order to prevent them from hatching again when just one or two antibiotics are used.

If you are wondering why these bacterial infections reproduce so well in chronically fatigued patients and patient with autoimmune and cardiovascular diseases, the answer is likely a combination of genetic tendency to infection and a tired immune system as a result of attack by more than 1 type of infection. This explains why healthy people with 1 infection can rid their body of the cell wall deficient bacteria listed above with no treatment or only 1 antibiotic. Common bacterial co-infections are Chlamydia (also called Chlamydia Pneumonia) along with Mycoplasma Pneumonia often with CDT (a bad gut bacterial infection) or yeast intestinal infections causing diarrhea and gas on top. Patients with COPD, asthma and chronic nasal allergies with persistent sinus infections often have a fungus called Candida Albicans, or a mold infection called Aspergillus, in their sinuses and lung and need to have antifungal antibiotics added to the regime in conservative doses at just 2-3 times per week. COPD and Asthma patients often have a low grade TB variant called Mycobacterium Avium in their lungs and sinuses. Lyme disease, carried by ticks, is another cell wall deficient bacteria that can cause chronic fatigue and fibromyalgia.

Common VIRAL co-infections include Cytomegalovirus, EB (Epstein Barr) Virus and HHV6 (Human Herpes Virus 6). Actually all of these viral co-infections are a recurrence of dormant viruses walled off within the immune cells from past illnesses usually in childhood that reoccur when the body is run down, often from bacterial co-infections. This is similar to the chickenpox virus recurring decades later as Shingles after being dormant in the body for decades.

Fortunately, for the sake of simplicity, all these viruses are “cousins” and respond to the same antibiotic called Valcyte (Valgancyclovir is the generic name). Unfortunately Valcuye is very expensive, averaging \$2,000.00 per month for patients without insurance on a twice per day dose. For patients with good insurance with co-pays, it is affordable. However, patients on most Medicare plans have to pay around \$400.00 per month for twice per day doses of Valcyte. Although Valcyte is better than Valtrex (Valacyclovir is the generic name) at penetrating and getting inside a patient’s cells to rid the body of viral infections, Valtrex often is a good first choice when cost is a factor, as it has just gone generic, and can be used in the early stages of viral treatments with considerable cost saving. An added benefit is killing infections more slowly at first to prevent the severe fatigue and muscle aches that often occur when a viral infection is killed too rapidly (this worsening fatigue and muscle aching is called a Herxheimer reaction or “Die Off” reaction). Other generic viral medications have better coverage with certain insurance plans such as Zovirax (Acyclovir is the generic name) and Famvir (Famcyclovir is the generic name) and are also effective for the previously mentioned viruses however, these generic antiviral medications have to be used in high doses and taken on a full stomach to be as effective as Valcyte.

Patient with bad Viral Neuropathy (nerve damage by a virus causing numbness, tingling or weakness of the arms or legs) or mental decline from viral infection in the brain which

is a likely cause of Dementia such as Alzheimer's disease, then Valcyte is better than Valtrex as it gets into the nerves and brain better than Valtrex. Dr. Hudson has treated 4 patients with Multiple Sclerosis (a progressive disease which destroys brain and spinal cord nerves) who are in remission with 25-75% improvements in their nerve damage from Cytomegalovirus or Herpes 6 with the improvements persisting over the last 3 years. In those cases, Valcyte penetrates the nerve tissues better than Valtrex.

A logical conclusion, from following hundreds of patients on these antibiotics since 2007, is that chronic infections become more and more common as we age. At ages younger than 40 there are more allergic type reactions to these infections like nasal allergies, food allergies and allergic skin rashes. As we get older and our immune systems become more fatigued with aging and larger numbers of fatigue infections multiplying within our cells, these infections can infect our joints causing arthritis and infect our blood vessels in our heart and brain causing heart attacks and strokes. They likely can infect our thyroid glands causing hypothyroidism and infect our insulin machinery causing diabetes. They can affect our lungs and sinuses causing chronic bronchitis with emphysema and chronic sinus infection. Even more importantly, the fatigue viruses in particular can cause inflammation of the brain and memory loss with Alzheimer's disease. In the course of treatment of hundreds of patients Dr. Hudson and several other doctors communicating on the internet suspect that treating these infections can add years to decades of life span and quality of life as we age.