13. MEDICATION PROTOCOLS FOR CO-INFECTIONS

Babesia

Of all the co-infections, Babesia has the most distinct regimen of medications because it is a protozoal parasitic infection, not a bacterial infection as are Borrelia, Bartonella and Ehrlichia. Until recent years, the usual treatment regimen was clindamycin plus quinine; however, this regimen has been abandoned due to the unacceptable incidence of severe side effects.

Mepron (Atovaquone):

One of the primary medications of choice for Babesia, atovaquone goes under the brand name of Mepron in the United States. Nicknamed "liquid gold", mostly because of its price, it has a good track record in Babesia treatment. Standard dosage is 750mg twice daily, which equates to 1 teaspoon twice daily, however some patients need higher doses, up to 2 teaspoons twice daily. Atovaquone can cause a mild yellowish discoloration of the vision and mild gastrointestinal side effects but is generally quite well tolerated.

An important point about atovaquone is that it must be taken with significant amounts of fatty food to facilitate its absorption. Research shows that 22 grams of fat is the ideal amount. There are healthy ways to get this amount of fat without justifying a large helping of fries or a burger. See Appendix B for a list of healthy fats and fatty foods.

Atovaquone in the form of Mepron must be combined with a macrolide such as azithromycin, clarithromycin or telithromycin, in the standard dosages listed previously. Patients on Mepron should not take supplements containing CoQ10 or milk thistle, as those two supplements can reduce the efficacy of the Mepron.

When Babesia is chronic, at least four to six months of treatment is required. Multiple medications are often needed, as it can be a difficult infection to eradicate. Babesia duncani may be more aggressive and treatment resistant than Babesia microti.

Malarone:

Malarone is a combination of atovaquone and proguanil. Although the standard dose of Malarone contains only 1000mg of actual atovaquone compared with 1500mg in 10 mL of Mepron, the proguanil helps to boost its effectiveness. Malarone is dosed at 2 tablets twice daily of the 250/100mg strength. It does not need a macrolide antibiotic along with it (azithromycin/ clarithromycin), so may be a better starting point in more sensitive patients. When cost is a major issue, Malarone is marginally less expensive than Mepron. Both need high amounts of fatty foods taken at the same time to help with absorption. Overall, I consider Mepron to be a more potent medication than Malarone; concurrent use of Bactrim DS or Septra may boost its efficacy. CoQ10 and milk thistle should also be avoided when taking Malarone.

Lariam (Mefloquine):

Mefloquine is another medication that is used in malaria treatment and prophylaxis. It is a tablet dosed at 250mg once every five to seven days. It can be taken along with atovaquone. I typically use atovaquone for six to eight weeks to reduce the overall parasitic load before introducing mefloquine, however I have seen mefloquine be very effective on the neurological aspects of Babesia such as anxiety and depression.

Mefloquine carries with it some possible neuropsychiatric side effects. On the milder end, vivid dreams or an exacerbation of depression or

anxiety may occur; on the more serious end, hallucinations, suicidal ideation and even psychosis have been reported.

My experience with mefloquine in my patients is that it can definitely cause a temporary worsening of psycho-emotional symptoms; however I have observed that to be consistent with a Herxheimer-type pattern where a patient's existing symptoms flare up at the beginning of treatment. I have not seen any cases of the more severe psychiatric side effects. Individuals with a history of bipolar disorder, schizophrenia or other serious mental illness would be poor candidates for mefloquine, but I consider it a very effective medication in Babesia treatment, particularly where Babesia is affecting the brain and causing psycho-emotional symptoms.

Coartem/ Riamet:

Under brand names of either Coartem or Riamet, these medications are a combination of artemether and lumefantrine. Again, they are used in malaria treatment, as well as Babesiosis. The advantage of Coartem is that it is only dosed twice a day for three days each month. The down side is that other Babesia medications and macrolide or quinolone antibiotics must be stopped for those three days plus two to three days on each side, so that can create quite a disruption in the overall treatment protocol.

Alinia:

Alinia has already been discussed as a possible cyst-form medication for Borrelia, but it also used in the treatment of Babesia. Dosing is 500mg twice daily. Alinia does not have as much of an established track record for Babesia as atovaquone, however I often use it in combination therapy, when either atovaquone ceases to have beneficial effect or the cost becomes prohibitive.

Septra/ Bactrim:

These two medications are a combination of trimethoprim and sulfamethoxazole. They are referred to as sulfa drugs, so anyone with an allergy to sulfa drugs cannot take either of these two medications.