

Essay – A Suggestion that it might be worthwhile to add Gamma Globulin to treatment protocols for Chronic Lyme Disease

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There are three reasons why it might be beneficial to add Gamma Globulin to treatment protocols for Chronic Lyme disease. They are:

1. Gamma Globulin has been shown to potentiate the antimicrobial action of antibiotics (1,2,3)
2. Gamma Globulin has been shown to be helpful in the management of the Guillan Barre syndrome, organ transplant rejection syndrome, and thrombocytopenic purpura (4,5,6). These are all autoimmune syndromes.
3. We know that Lyme disease has autoimmune aspects because of its proven association with multiple sclerosis, which is known to be autoimmune in nature (7).

Because of these three reasons I am suggesting that Gamma Globulin be empirically tried in recalcitrant cases of Lyme disease in which antibiotic therapy has been found wanting.

Evaluation of these suggestions will be difficult because it will depend on the time honored suggestions of Francis Bacon who in 1620 stated that careful observation will be the best avenue with which to evaluate scientific studies (8). This will occur only if clinicians who try Gamma Globulin in Lyme disease will share their **observations** with colleagues, patients and their families, through the Internet, and through case reports in the medical literature.

However there are three noninvasive methods by which possible effects of Gamma Globulin on Lyme disease can be evaluated (9,10,11). They are:

1. Serial determinations by MRI studies of the glutamate levels in the brains of Lyme disease patients (9).
2. Serial determinations of the numbers of the autoimmune T and B cells circulating in the blood and cerebral spinal fluid of Lyme disease patients in whom Gamma Globulin has been added to their management program (10).
3. In Vitro determinations by a tube or agar dilution method of the effects of Gamma Globulin on the antimicrobial activity of antibiotics against Lyme pathogens. These will be difficult because of the fastidiousness in cultures of the organisms involved (11).

I doubt whether these studies will be done in the near future because of their expense, difficulty, and the fact that there are those who have convinced themselves and others that Chronic Lyme disease is not a problem (12). Because of this, I hope that those who might be interested in this suggestion will not delay in acting on it until all these studies are completed.

References

1. Fisher M., Synergism between gamma globulin and Chloromycetin in treatment of bacterial infections. *Antibiot. & Chem.* 1952, 1-315-332
2. Waisbren, B.A., The Treatment of bacterial infections with combinations of antibiotics and (intramuscular) gamma globulin, *Antibiot. & Chem.* 1957, 7 , 322-333
3. Waisbren, B.A., Pyogenic osteomyelitis and arthritis of the spine treated with antibiotics and gamma globulin, *Journal of Bone and Joint surgery*, 1957. 42 414-429
4. Gillian Barre Syndrome-Treatment overview
<http://www.webmd.com/brain/tc/guillain-barre-syndrome-treatment-overview>
5. Schmitt R.E., et. Al, High Dose Gamma Globulin therapy in Adults with Idiopathic Thrombocytopenic Purpura-Clinical effects, *Ann. of hematology*. 4 1482-0584
6. Intravenous Gamma Globulin (IVG) Clinical Use in Kidney Transplantation, *Am. J. of Transplantation* 2006, 6 458-456
7. Cavet K. Lyme and MS Having the Same Etiology,
<http://www.canlyme.com/lymemultiplesclerosis.html>
8. Bacon F, *Novum Organum* 1620
9. Scrimivasan R., Salasulan, et.al. Evidence of Elevated **glutamate** in multiple sclerosis using magnetic resonance spectroscopy at 3t., *Brain* 2005, 128, 1016-1025
10. Martin R., Gran B., Zhao A, et. al. Molecular Mimicry and antigen specific T-cells response in multiple sclerosis and chronic Lyme disease review 2001, 16 187-92
11. Waisbren B.A., Carr C. and Dunnetto J. The Tube Dilution Method of Determining Bacterial Sensitivity to Antibiotics 1951, 21 884-91
12. IDSA Guidelines for Lyme Disease, pp 1120-21