

# **'Natural Therapeutic Interventions for Patients with Chronic Infection'**

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# **Content**

- 1. Some Infectious Pathogens  
Underlying Chronic Infection**
- 2. Therapies**
- 3. Studies**
- 4. Conclusions**
- 5. Questions**



# **'Some Infectious Pathogens Underlying Chronic Infection'**

- 
- Pathogens and coïnflections
  - Toxins
  - Immune system
  - Other(s)

# LYME-BORRELIOSIS: CO-INFECTIONS

- **Borrelia (bacteria)**
- **Babesia (protozoa)**
- **Ehrlichia (rickettsia)**
- **Bartonella (bacteria)**
- **Mycoplasma (L-form)**
- **Viruses (specific CMV, EBV)**



# THERAPIES

# Medical management

- The oral antibiotics doxycycline, amoxicillin or cefuroxime axetil are recommended for 2 weeks (range 10 to 21 days) for erythema migrans. Facial palsy and other complications need longer treatment (3 to 4 weeks).
- The usual adult doses of these antibiotics are:
  - doxycycline 100mg twice daily
  - amoxicillin 500mg three times daily
  - cefuroxime axetil 500mg twice daily.

*Source:* Public Health England website



# Traditional /Conventional Treatment

The traditional / conventional treatment for Lyme disease are pharmaceutical antibiotics such as:

- Doxycycline
- Minocycline
- Clarithromycin
- Penicillin G
- Ceftriaxone.

*Source:* Burrascano J.  
Advanced Topics in Lyme Disease.  
Managing Lyme Disease. 2005; 15th edition, 1-33.







# Treatment Guidelines ILADS 2008

The ILADS treatment guidelines for Lyme Disease are:

- pharmaceutical antibiotics
- nutritional therapies

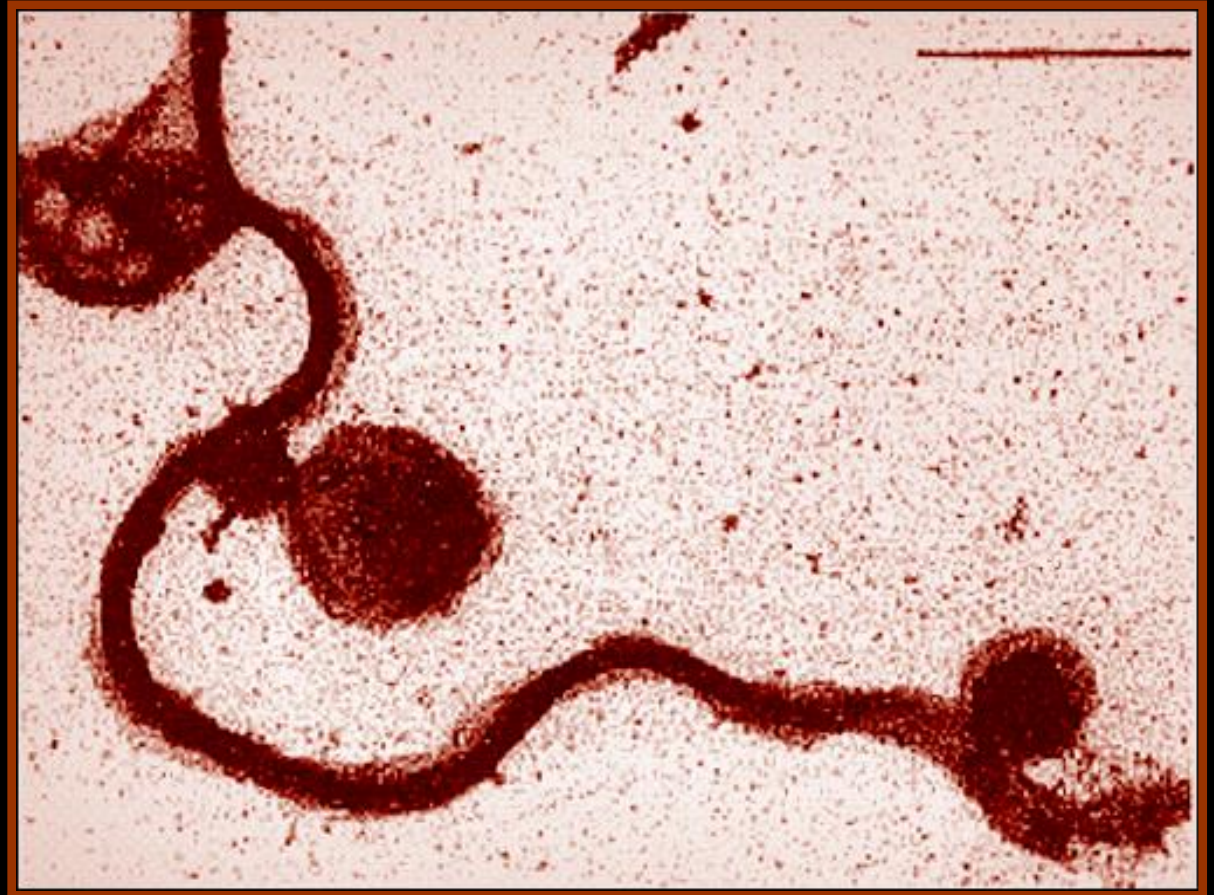
General consensus/guidance of NHG and ILADS

See: <http://www.ilads.org/lyme/treatment-guideline.php>

# The Strategy of Morphological Variation in *Borrelia burgdorferi* & Other Spirochetes

*Borrelia burgdorferi* develops granules & cysts when exposed to antibiotics.

Source:  
*Antimicrobial Agents  
& Chemotherapy*,  
1995;39(5):1127-33.



Kersten A ; Poitschekc: Rauch S.; Aberer E. 1995



# CAM treatments



# CAM treatments

- Natural antibiotics against Borrelia
- Treatment of co-infections: viruses, fungi, parasites, bacteria
- Detoxification from toxins and Herxheimer reactions
- Enhancement of the immune system
- Other

# Why CAM treatment(s)

1. Antibiotics can kill off friendly bacteria in the gut and allow overgrowth of fungi and other 'bad' bacteria
  2. Can become resistant to antibiotics
  3. Bacteria change form into cysts which 'hide' from antibiotics
- 
- Various protocols available :
    - The Klinghardt Protocol
    - The Buhner Protocol
    - The Cowden Protocol

# ILADS Supportive Therapy – Nutritional Supplements (Part 1)

1. Probiotics
2. Multivitamin
3. CoQ10
4. Alpha Lipoic Acid
5. Vitamin B
6. Magnesium
7. Essential Fatty Acids
8. NT-Factor

## For Neurologic Symptoms

1. Acetyl-L-Carnitine
2. Methylcobalamin  
(Methyl B12)
1. Green Tea
2. Cordymax
3. Citicholine

*Source:*

[http://www.ilads.org/lyme/B\\_guidelines\\_12\\_17\\_08.pdf](http://www.ilads.org/lyme/B_guidelines_12_17_08.pdf)

# ILADS Supportive Therapy – Nutritional Supplements (Part 2)

## ■ Immune Support

1. “Reishi Max”
2. Transfer Factors

## ■ Joint Symptoms

1. Glucosamine
2. Vitamin C
3. Flex Cream

*Source:*

[http://www.ilads.org/lyme/B\\_guidelines\\_12\\_17\\_08.pdf](http://www.ilads.org/lyme/B_guidelines_12_17_08.pdf)



# CAM treatments

## ■ Natural treatments against Borrelia

- TOA-free Cat's Claw
- Otoba sp. (anti bacterial)
- Teasel
- Ozone therapy
- Biophoton therapy or zappers





# EXPLANATION of the EFFICACY of TOA-free Cat's Claw

- **Pentacyclic Oxindole Alkaloids**  
stimulation and modulation of the immune system
- **Quinovic acid glycosides**  
antiviral and antibacterial
- **Triterpenes**  
antiviral, anti-inflammatory, anti-allergic  
stimulation of T-killer cells
- **Antioxidans, polyphenols, proanthocyanidins**  
support the immune system and reduce the free radical load



# Sapi Study



## *In vitro* effectiveness of Samento and Banderol on different forms of *Borrelia burgdorferi*

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### Introduction

*Borrelia burgdorferi* (Bb), a spirochete bacterium, has the ability to adopt different inactive forms, such as cystic form and colony-like aggregates both *in vivo* and *in vitro*, in presence of unfavorable conditions such as exposure to antibiotics, commonly used for treating Lyme borreliosis<sup>1, 2, 3</sup>. Unfortunately, when Bb is in these inactive forms, conventional antibiotic therapy will not destroy the bacteria. The frontline treatment for chronic Lyme disease is administration of tetracyclines (e.g. doxycycline) or macrolides (e.g. clarithromycin)<sup>4, 5</sup>. However, even after 3 months of treatment with these drugs, only a 50%-60% improvement rate is observed in patients, with a cure rate of only 20%<sup>4, 5</sup>. Besides this, the conventional antibiotic treatment for Lyme disease has several disadvantages including relapse of disease, high treatment cost and extremely unpleasant side-effects.

An alternative treatment approach, called Cowden's protocol, is a botanical treatment and is gaining wide use. This protocol has been in clinical use since 2006 and Dr. Richard Horowitz has shown clinical success using Cowden's protocol, with 70% improvement, which is significantly higher than the previous clinical trials on antibiotic agents<sup>6</sup>.

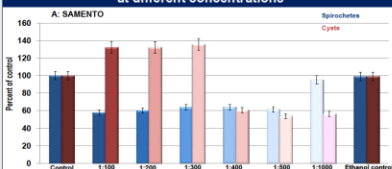
The two natural antibiotics from the Cowden's protocol selected for this study are Samento (also known as Cat's Claw- *Uncaria tomentosa*), having antibacterial and antiviral properties<sup>7, 8</sup> and Banderol (*Otoba sp.*)-known to be antibacterial, anti-protozoal and anti-inflammatory<sup>9</sup>, both of which are used extensively during the first two months of Cowden's protocol. In this project, we tested these natural antibiotics, to study their effect on spirochete, cyst and biofilm forms of Bb.

### Material and Methods

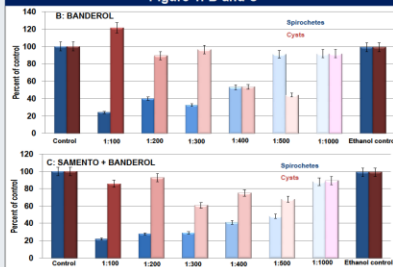
This study was performed using Bb-B31 (ATCC# 35210). Bb-B31 was cultured in BSK-H complete media, supplemented with 6% rabbit serum (Sigma B8291). To make the culture monomorphic for spirochete form, the culture was incubated in shaking incubator at 33°C and 270 r.p.m.

A wide range of concentrations of these herbal agents were initially tested to determine an effective concentration. Then, to assess the *in vitro* viability of Bb cultures exposed to Samento, Banderol and its combination at the selected concentration after 2 weeks, direct cell counting using a 10 µm bacterial counting chamber (Petroff-Hausser 3901) was performed to determine the effect on spirochete and cyst forms. Fluorescent microscopic technique using LIVE/DEAD BacLight Bacterial Viability Kit (Invitrogen L7012) was performed to visualize biofilm formation. Thus, the effectiveness of Samento, Banderol and its combination on spirochete, cyst and biofilm forms of Bb-B31 was tested.

**Figure 1 - Effect of Samento, Banderol and their combination at different concentrations**

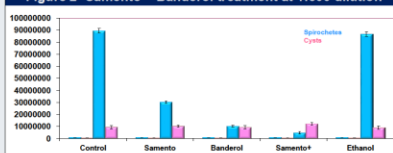


**Figure 1: B and C**



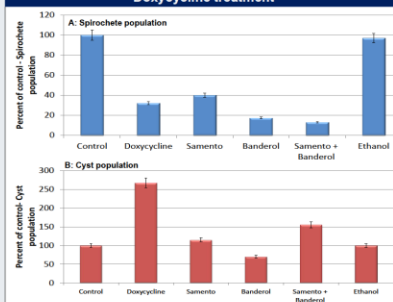
**Figure 1: Effect of Samento, Banderol and Samento + Banderol on Bb-B31 after 96 hours by direct cell counting method. A: Samento; B: Banderol; C: Samento + Banderol**

**Figure 2- Samento + Banderol treatment at 1:300 dilution**



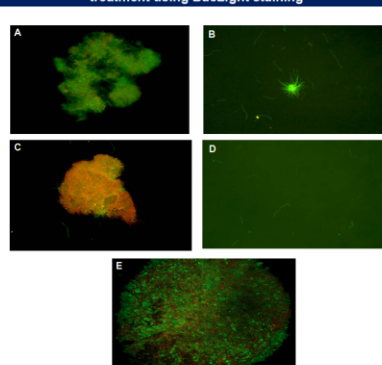
**Figure 2: Sensitivity of Bb forms to Samento and Banderol (1:300 dilution) and daily administration for 2 weeks by direct cell counting method.**

**Figure 3- Samento and Banderol treatment compared to Doxycycline treatment**



**Figure 3: Percentage spirochete and cyst population after treatment with Doxycycline (250 µg/ml), Samento and Banderol (1:300 dilution) by direct cell counting method. A: Spirochete population; B: Cyst population.**

**Figure 4: Images of Bb biofilm after Samento and Banderol treatment using BacLight staining**



**Figure 4: BacLight viability staining of Bb-B31 after treatment using SYTO9 (green fluorescent nucleic acid stain and propidium iodide, a red fluorescent nucleic acid stain). A: Control; B: Samento (1:300 dilution); C: Banderol (1:300 dilution); D: Samento + Banderol (1:300 dilution); E: Doxycycline (250 µg/ml). All images are taken at 40X magnification.**

### Results

After testing wide range of concentrations of Samento, Banderol and their combination, 1:300 dilution worked best against the spirochete and cyst forms of Bb-B31 (Figure 1C) and this concentration was chosen for further study. Throughout the study, ethanol-control was also used because these herbal extracts contain 20%-25% ethanol.

The results from direct cell counting method showed significant reduction in the Bb-spirochete form, but not the cyst form, after 2 week exposure to Samento, Banderol and their combination (Figure 2). If compared to the most common antibiotic for Lyme disease treatment, doxycycline (250 µg/ml), it was observed that though doxycycline is very effective against the spirochete form, these natural antibiotics indeed have comparable effects. Furthermore, the combination of Samento and Banderol works even better than doxycycline for spirochete form (Figure 3A). Also, doxycycline treatment induces more cyst formation as compared to Samento, Banderol or its combination (Figure 3B). The BacLight staining helped to visualize the effects after treatment (Figure 4). The green fluorescent stain (having excitation/emission maxima of about 480/500 nm) stains healthy bacteria with intact membranes, thus staining live cells, and the red dye (having excitation/emission maxima of about 490/635 nm) stains bacteria with damaged membranes, by displacing the green dye, thus staining dead cells.

Samento and Banderol seem to be effective against the spirochete and cyst forms of Bb, however further research is required to determine their effect on the biofilm form.

### Conclusions

In summary, 2 week *in vitro* treatment of Samento and Banderol is capable of eliminating Bb spirochete and cyst formations as seen by the direct cell counting method. Cowden's protocol uses these natural antibiotics daily for two months, suggesting that they probably help to significantly eliminate spirochetes and cysts. Our data supports the clinical success showed by Lyme disease patients who are on Cowden's protocol<sup>6</sup>.

The effect of Samento and Banderol on Bb biofilm is currently under further study and combinations of these natural antibiotics with Serrapeptase (a proteolytic enzyme, used throughout the 6 months in Cowden's protocol) are being performed. Early data shows promising results with combination of Samento, Banderol and Serrapeptase.


Our novel study is to find potential alternative clinical treatment options for Lyme disease patients which would address all forms of Bb.

### References

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### Acknowledgements

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# CAM Co-infections

## ■ Treatment of co-infections

viruses, fungi, parasites, bacteria

- Oregano / Quercetin / Curcumin complex: broad spectrum
- Epigenar / para-epi / vir. / bact. = ozonated castor oil
- Probiotics like Symprove®
- L-Lysine (viruses); L-Cysteine (parasites)



# Viruses like Epstein-Barr (EBV)

- L-Lysine: 500mg 6 caps a day
- Vitamin D / Vitamin K2: 1000iu
- Vitamin C: 3000mg
- Cistus Incanus



# Parasites

- Black walnut, Clove & Eucalyptus oil (Hulda Clarke)
- Para-epi
- L-cysteine
- Metronidazole (Flagyl®)



# Fungi

- Sugar-free diet
- Probiotics
- Cumanda
- Grapeseed extract
- Garlic
- Pau d'Arco
  
- Miconazole (Daktarin® oral gel)



# Herxheimer reaction

The killing of toxin-producing microorganisms allows toxins into the body and while therapy is used to get better, one feels worse temporarily.

This was first described by the German physician Karl Herxheimer.



# CAM detox support

- **Detoxification** and Herxheimer reaction  
Burbur-detox, Green Magma, Milk thistle, Green clay, Curcuma + Quebra pedra
  - Desmodium molliculum stimulates the liver / kidneys and lymph
  - Milk thistle supports the liver function
  - Green clay binds lipoproteins in gut
  - Curcuma and Quebra pedra support the liver and gallbladder





# Other CAM Treatments

- Coenzyme-Q10, Acetylcarnitine, Vit-C, Magnesium malate, Serrapeptase, Curcuma complex, Cistus incanus, etc.
  - Energizers: Q10 and Acetyl L-carnitine
  - Magnesium because Borrelia uses Mg
  - HPU Glutathione for HPU and neg. lyme test
  - Cistus incanus / serrapeptase for biofilm and cysts
  - L-Glutamine acid for Gut; Enzyme complex




# Immune system

- TOA-free cat's claw
- Echinacea
- Astragalus
- Curcumin / Garlic
- Mushrooms (Maitake / Reishi)
- Vitamins and minerals
- Lifestyle (rest / sleep / diet / stress)



# STUDIES



# Pilot study: TOA-free Cat's Claw for Lyme Disease

## Principle Investigators:

- William Lee Cowden M.D.
- Joan Vandergriff N.D.
- Hamid Moayad D.O.
- Luis Romero M.D.
- Svetlana Ivanova M.D. Ph.D.

## Research Sponsors:

- NutraMedix, LLC (Jupiter, Florida)  
Nature's Sunshine Products (Provo, Utah)



# Structure of the Pilot Study

- 28 Stage 3 Lyme patients began the study
- 14 “control” patients continued using conventional therapy during the study
- 13 out of 14 patients in the “complementary” treatment group completed the study (1 dropped out because of cancer surgery)

# Symptoms experienced by the 13 complementary patients

Symptom	Number of Persons with Symptoms		
	Before Study	Wk.10 of Study	Improvement %
		# Improved	
Fatigue	13/13	12/13	92.3
Stomach Pain	10/13	10/10	100
Joint Pain	8/13	7/8	87.5
Memory Problems	9/13	8/9	88.9
Muscle Pain	7/13	7/7	100
Visual Disturbances	5/13	4/5	80
Emotional Instability	5/13	4/5	80
Peripheral Neuropathy	5/13	5/5	100
Insomnia	4/13	3/4	75

PATIENT'S NAME ▶

START DATE ▶

M:

D:

Y:

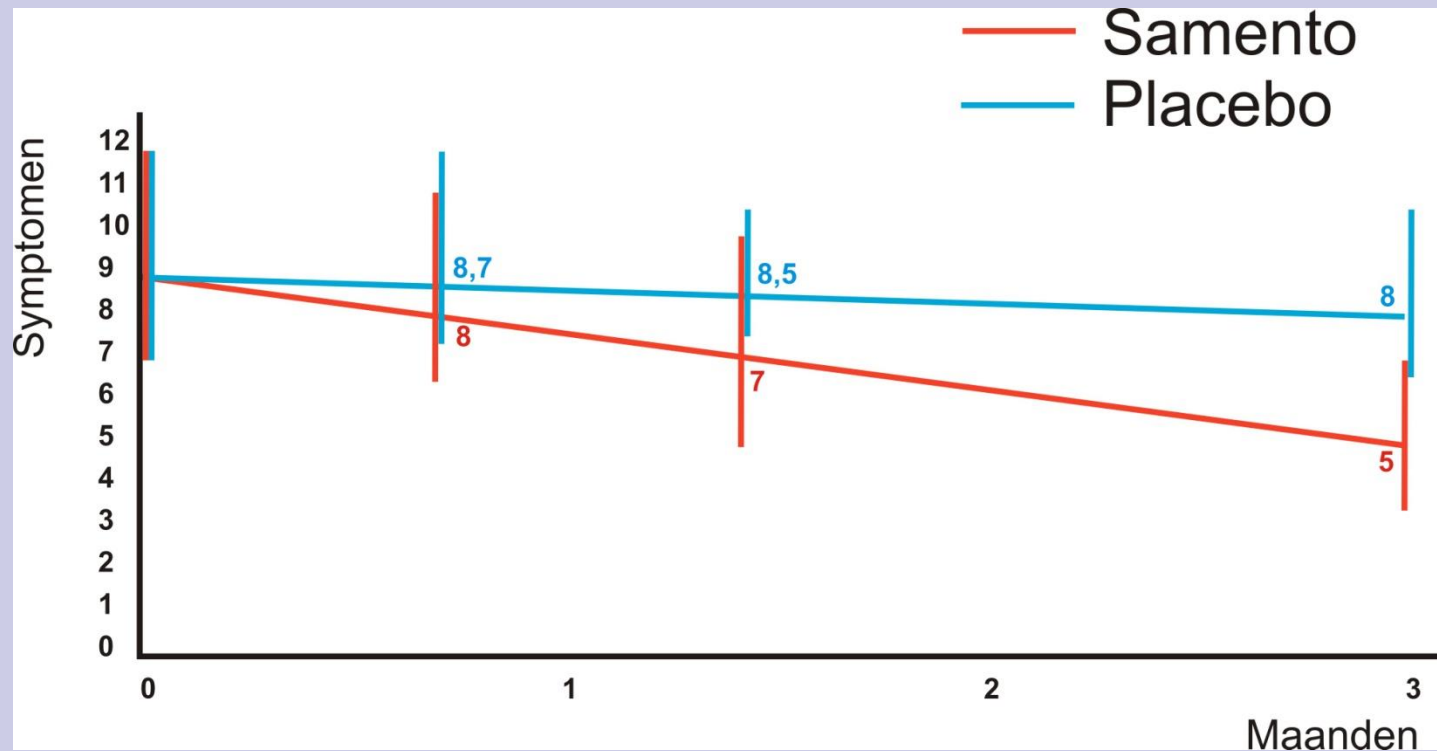
## COWDEN SUPPORT PROGRAM

DAY #	30min BEFORE BREAKFAST	DOSAGE	30min BEFORE LUNCH	DOSAGE	30min BEFORE SUPPER	DOSAGE	AT BEDTIME	DOSAGE
1	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops
2	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops
3	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops	BURBUR PINELLA Done: ▶	10 drops 10 drops	PARSLEY Done: ▶	10 drops
4	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	1 drop 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 1 drop 10 drops	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	2 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA ALGAS Done: ▶	10 drops 10 drops 2 drops 10 drops 10 drops
5	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	3 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 3 drops 10 drops	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	4 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 4 drops 10 drops
6	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	5 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 5 drops 10 drops	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	6 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 6 drops 10 drops
7	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	7 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA Done: ▶	10 drops 10 drops 7 drops 10 drops	BANDEROL BURBUR MAGNESIUM SERRAPEPTASE Done: ▶	8 drops 10 drops 2 caps 1 cap	PARSLEY PINELLA SAMENTO SPARGA ALGAS Done: ▶	10 drops 10 drops 8 drops 10 drops 10 drops

# Results



## ■ Double blind period (3months)







How can people  
start easily?

# LYME DISEASE TREATMENT SCHEDULE

**PREVENTION** (possibly “infected tick”)

**Samento 3 times per day 7 drops (or 2 x 10), for 15 days**

**ACUTE LYME** (“bull’s eye”, or symptoms)

**Samento twice a day 15 drops, for 60 days (Herxheimer reaction?)**

**CHRONIC LYME**

**Building schedule:**

- Samento twice a day 1 drop
- increase with 1 drop per week till twice a day 15 drops
- alternating: 12,5 days Samentont , 1,5 day not; 6-9 months
- similar with Banderol, then alternate (2x20 dr.)

**Supporting: Cumanda (co-infections) 2x20 dr.; detoxification Burbur-detox (4x10 dr.)**



# Protocols

- Detox
- Microbes: bacteria / fungi / virus / parasite
- Immune system
- Other



# CONCLUSIONS



# Conclusions

- Lyme & associated diseases:  
accurate diagnosis is essential
- Antibiotic treatment +/-
- CAM treatment(s)
- Research and studies
- Individual treatment !



# QUESTIONS?

Thank you for your attention