






RECURRENT PYODERMA IN DOGS  
WITH ATOPIC DERMATITIS  
**YOU CAN CONTROL IT!**

READ HOW

*Staphage Lysate (SPL)*<sup>®</sup>

CAN HELP.



-  A STAPHYLOCOCCAL BIOLOGIC
-  REDUCES PRURITUS AND RECURRENCES OF INFECTION
-  WORKS IN DOGS WITH MRSP AND MRSA
-  REDUCES THE OVERUSE OF ANTIBIOTICS WHICH OFTEN LEADS TO ANTIBIOTIC RESISTANT STAPHYLOCOCCUS
-  ALL NATURAL - HAS NO PRESERVATIVES

FOR LONG-TERM CONTROL  
THE ANSWER IS

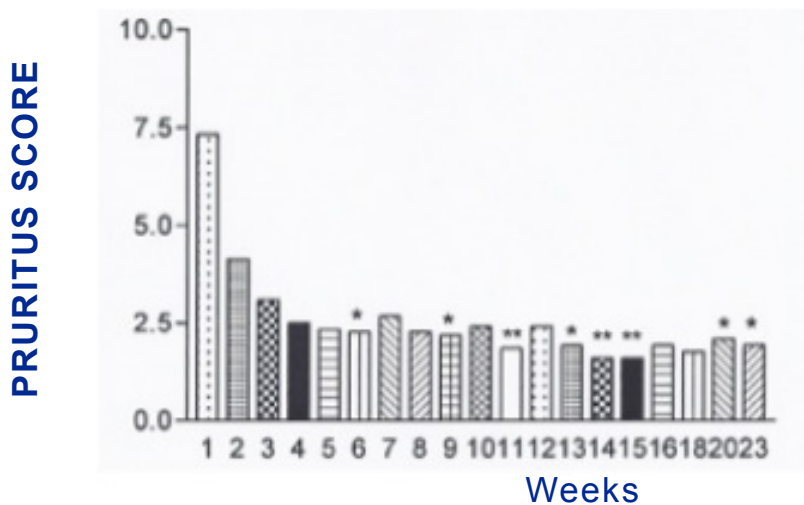
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Abstract from Masters Thesis - *Staphylococcus Aureus Phage Lysate (SPL) use for control of recurrent eczematizing pyoderma of dogs with atopic dermatitis 2011* –  
 By Dr. Suzana Evelyn Bahr Solomon – Pontifca Universidade Católica do Paraná,  
 São José dos Pinhais, Paraná, Brazil

Recurrent staphylococcal infections are frequent in dogs with atopic dermatitis. Several factors such as decrease of epidermal barrier function, decrease in production of antimicrobial peptides and increased colonization and adherence of bacteria to keratinocytes seem to combine to make bacterial pyoderma refractory to treatment. Systemic antibiotic therapy in the short-term is effective for the treatment of episodes and with pulse therapy, might contribute to long-term control. However, in addition to undesirable side-effects, microbial resistance has become a growing and alarming problem.

The aim of this study was to evaluate whether the use of *Staphylococcus aureus* Phage Lysate (Staphage Lysate (SPL)<sup>®</sup>), a bacterin obtained from *S. aureus* used in vaccine protocol, can minimize the symptoms of recurrent pyoderma and increase the interval between episodes in atopic dogs. Twelve dogs with a history of recurrent bacterial pyoderma received SPL<sup>®</sup> at increasing intervals for twenty three weeks. An efficacy rate of 83.33% for the control of pruritus and regression of lesions was observed.



\*P<0.05  
 \*\*P<0.01

Average Pruritus scores of study dogs from week 1 to 23.

Scoring Method Used: Rybnicek, J., Lau-Gillard, P.J. , Harvey, R. and Hill, P.B. (2009). *Further validation of a pruritus severity scale for use in dogs*. *Veterinary Dermatology*, 20:115-122. doi:1111/j.1365-3164.2008.00728.x

## Identification and Culture ID of the Dogs 1 to 13

Breed	Sex	Age (Years)	Culture ID
1-Yorkshire Terrier	M	5	<i>S. pseudintermedius</i>
2- Dachshund	F	6	<i>S. aureus</i>
3-Golden Retriever	F	2	<i>S. pseudintermedius</i>
4-Poodle	M	7	<i>S. pseudintermedius</i>
5-Golden Retriever	F	6	<i>S. aureus</i>
6-Maltese	F	6	<i>S. pseudintermedius</i>
7-Lhasa Apso	F	6	<i>S. aureus</i>
8-Mixed Breed	F	5	<i>S. pseudintermedius</i>
9-Yorkshire Terrier	M	4	MRSP
10-Shitzu	F	3	MRSP
11-- Dachshund	F	5	<i>S. pseudintermedius</i>
12- English Bulldog	F	3	MRSA
13-Dachshund	F	9	MRSA

MRSP - Methicillin Resistant Staphylococcus pseudintermedius

MRSA - Methicillin Resistant Staphylococcus aureus

## Antibiotic Sensitivity of Cultures from Atopic Dogs 1 to 13

Dogs	1	2	3	4	5	6	7	8*	9	10	11	12	13
Amoxicillin & Clavulanic Acid	S	S	S	S	S	S	S	S	R	I	S	S	R
Cefovecin Sodium	R	S	S	S	S	S	S	S	R	R	S	R	R
Cefixime	R	S	S	S	S	S	S	S	R	R	S	R	R
Enrofloxacin	S	S	S	S	S	R	R	S	R	R	S	R	R
Ciprofloxacin	I	S	S	S	S	R	S	S	R	R	S	R	R
Clindamycin	S	R	S	S	I	R	S	S	I	I	R	S	R
Azitromycin	S	R	S	S	I	R	S	S	R	I	S	S	R
Marbofloxacin	S	S	S	S	S	R	S	S	S	R	S	R	R
Oxacillin	I	S	S	S	S	I	S	S	R	R	S	R	R

S - Sensitive; I - Intermediate; R- Resistant

\* Dog did not complete study

## Antibiotic therapy was based on the results of the culture and sensitivity tests

(See previous table)

Dog	Antibiotic	Dose, Frequency, Route of Administration	Weeks
1	Cefovecin Sodium	8 mg/kg each 14 days/SC	1 and 3
2	Amoxicillin & Clavulanic Acid	22 mg/kg BID/oral	1 to 4; 7 and 8
3	Cephalexin	30 mg/kg BID/oral	1 to 4; 7 and 8
4	Cefovecin Sodium	8 mg/kg each 14 days/SC	1 and 4
5	Cephalexin	30 mg/kg BID/oral	1 to 3
6	Cephalexin	30 mg/kg BID/oral	1 to 3
7	Cephalexin	30 mg/kg BID/oral	1 to 4
	Amoxicillin & Clavulanic Acid	22 mg/kg BID/oral	12 to 16 and 20
9	Cefovecin Sodium	8 mg/kg each 14 days/SC	1 and 3
10	Amoxicillin & Clavulanic Acid	22 mg/kg BID/oral	1 and 3
11	Cefovecin Sodium	8 mg/kg each 14 days/SC	1 and 3
12	Amoxicillin & Clavulanic Acid	22 mg/kg BID/oral	1 to 4
13	Enrofloxacin	5 mg/kg BID/oral	1 and 2
	Clindamycin	10 mg/kg BID/oral	3 and 4
	Amikacin	Spray 3% BID/topical	5 to 8

Antibiotics administered to dogs 1 to 13

# CONTROL OF PYODERMA LESIONS WITH *Staphage Lysate (SPL)*<sup>®</sup>

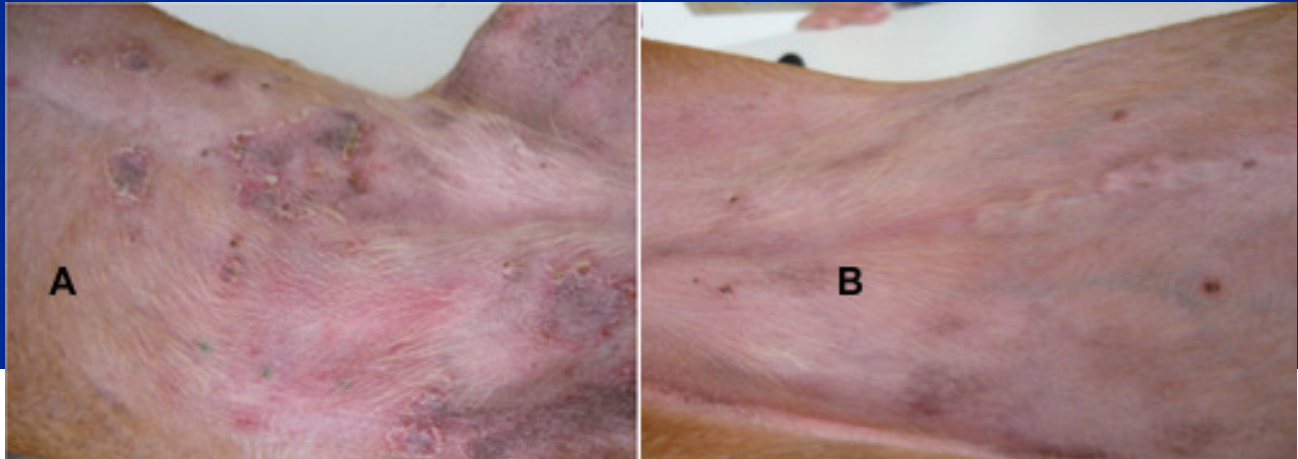


Figure 4: A- Week 1: Presence of papules, epidermal collarettes, melicéricas (honey-like crusts), erythema and hyperpigmentation on ventral abdomen; B- Week 23: remission of lesions.



Figure 5: A- Week 1: presence of hypotrichosis, alopecia, tonsure and epidermal collarettes in lateral abdominal region and external side of thigh, secondary staphylococcal folliculitis; B- Week 23: remission of lesions

Photographs courtesy of Dr. Suzana Evelyn Bahr Solomon from her thesis *Staphylococcus aureus Phage Lysate (SPL)*<sup>®</sup> use for control of recurrent eczematizing pyoderma of dogs with atopic dermatitis

## Evaluation of the Efficacy in the Control of Lesions

Dermatological lesions were evaluated weekly and a numerical scale of lesions was carried out in three phases: 1, 2, and 3 (in weeks 1, 12, and 23), based on the dermatological evaluations. The total score for the week was obtained by the sum of individual scores of each lesion in specific locations (head, ears, trunk, axilla, abdomen, perineum, limbs and feet). The lesion score ranged from 0 to 3, where 0=without lesions; 1 = a few lesions, 2 = many distinct lesions, 3 = many confluent lesions. The efficacy was verified by using the Fisher test relative to 77%, the proven efficacy of SPL<sup>®</sup>.

## Statistical Evaluation

For the statistical analysis of the nonparametric data, Kruskal-Wallis test was used, followed by Dunn's test for comparison of the averages. The significance level used was 5% ( $\alpha=0.05$ ) since levels of  $p \leq 0.05$  were considered significant. All calculations were performed using the statistical *Software GraphPad Prism* version 3.00 for Windows, San Diego, California, USA.

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