

EFFICACY OF A 3% CHLORHEXIDINE SHAMPOO FOR THE RESOLUTION OF CANINE JUVENILE IMPETIGO

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BACKGROUND

Impetigo is a superficial pyoderma that affects young dogs before puberty. The disease is characterized by nonfollicular subcorneal pustules located on the glabrous areas of the ventral abdomen. Relationships exist with factors such as poor hygiene or nutrition, parasitism and viral infection, although some cases occur for no apparent reasons.

MATERIALS & METHODS

Study format: open clinical field trial.

Animals:

- 15 puppies, 10 males / 5 females, aged from 1.5 to 5 months, presenting with ventral pustules from which free and phagocytosed cocci could be detected at cytological examination.
- None of the study animals presented with deep pyoderma (furunculosis, cellulitis), general demeanour, lymphadenopathy, demodicosis, sarcoptic mange or uncontrolled flea allergy dermatitis.
- No systemic or topical antifungal, antibacterial or anti-inflammatory agent was administered to the study animals in the week prior to inclusion.

Treatment:

- Pyoderm®** shampoo therapy: **twice a week for 3 weeks.**
- Massage all over the body, rinsing off, second massage **with a contact time of 10 minutes**, final long and thorough rinsing to eliminate foam.
- Ear cleansing with Epiotic® allowed if needed.

Concurrent medications:

- No other topical or systemic agents for dermatological purposes.
- Vaccination and deworming (1 case).

Evaluation:

- Puppies were examined before (Day 1) and after treatment (Day 21).
- Clinical signs: ventral pustules, exudation, erythema, excoriations and pruritus each graded on a 5-point intensity scale to calculate an aggregate clinical index.
- Bacterial counts: recorded by cytology (impression smear technique, high power immersion field, x1000) from 2 selected sites presenting with lesions at baseline. Coccioid populations graded on a semi-quantitative scale. Table 1.
- Owner satisfaction on treatment outcome.

Table 1. Semi-quantitative scale for coccioid populations

Mean cocci / hpf	Score	Interpretation
0 - 1	0	None or very few bacteria
1.1 - 3	1	Low numbers
3.1 - 5	2	Moderate numbers
5.1 - 10	3	Numerous
> 10	4	Very numerous

hpf = high power field (x1000, oil immersion)

Table 2. Success rate on Day 21

Outcome	No. (%) of puppies	Findings
Resolution	12 (80%)	Total lesion clearance None or very few bacteria
Improvement	2 (13.3%)	57% - 70% reduction of the clinical index Low numbers of cocci
Failure	1 (6.7%)	No reduction of the clinical index Low numbers of cocci

OBJECTIVES

Evaluate the efficacy of a 3% chlorhexidine shampoo (Pyoderm®, Virbac) to resolve clinical signs and staphylococcal infection associated with puppy impetigo.

RESULTS

- Severity of clinical findings at baseline: moderate to severe excoriations and erythema (13 dogs/15), moderate to severe exudation and pustules (11/15), frequent to permanent pruritus (9/15)
- Microbial overgrowth at baseline: >5 cocci/hpf (9 dogs /15)
- The aggregate clinical index decreased significantly** over the study period (Paired T-test, P<0.0001, NCSS 2004 Statistical software). Three weeks of chlorhexidine shampoo therapy reduced the clinical index by 88.5% as compared to baseline. Figure 1.
- All component clinical scores decreased significantly (Wilcoxon signed-rank tests, P<0.002) and to a similar extent between Day 1 and 21. Figure 2.
- A significant reduction of the microbial score** was also recorded at endpoint (Wilcoxon signed-rank test, P=0.0006). Figure 2.
- By Day 21, all lesions had disappeared and infection was cleared for 12 dogs out of 15. Two further dogs were markedly improved, while treatment failure was recorded in one case. Table 2.
- No adverse event was reported.
- All owners were satisfied to very satisfied by the treatment outcome, except in one case (clinical failure).

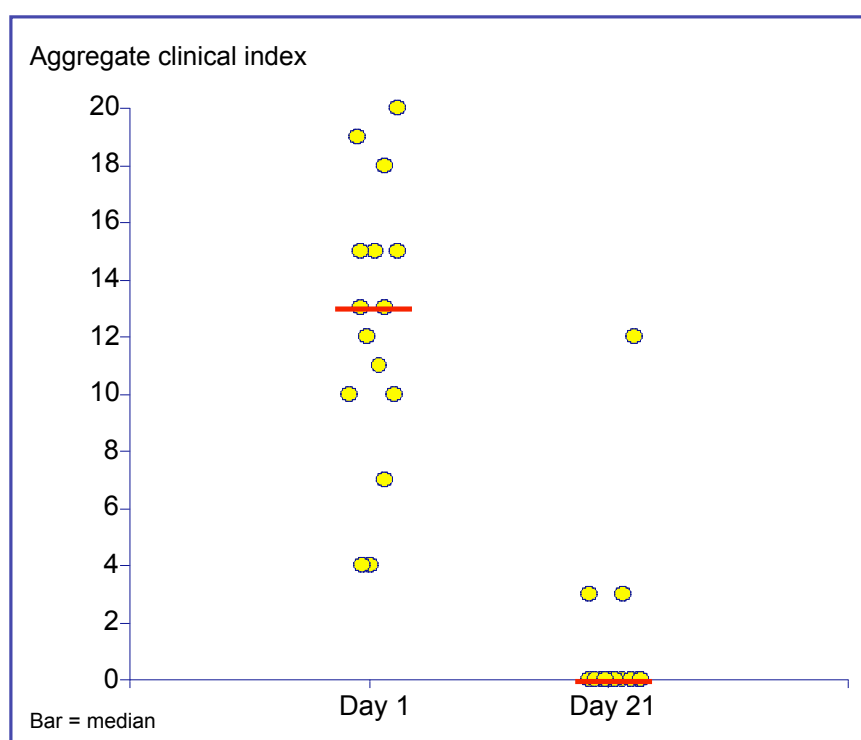


Figure 1. Aggregate clinical index: individual values

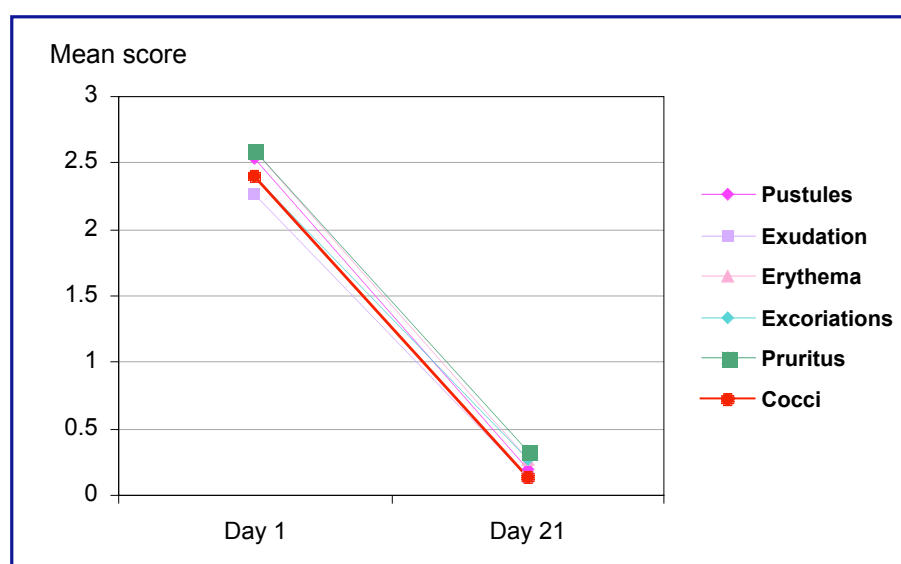


Figure 2. Mean clinical and microbial scores

CONCLUSIONS

Pyoderm® proved effective to resolve clinical signs and control bacterial infection in a vast majority of puppies with juvenile ventral pustular dermatitis.

This 3% chlorhexidine shampoo therefore can be considered as a stand alone therapy to manage canine juvenile impetigo.

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