

USE OF LACTOFERRICIN, VERBASCOSIDE AND GLYCEROPHOSPHOINOSITOL-LYSINE EMULSION IN BACTERIAL AND YEAST OVERGROWTH TREATMENT: A PILOT STUDY

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INTRODUCTION

Bacterial and yeasts overgrowth are present in skin folds dermatitis and in atopic dermatitis. Generally they require topical antiseptics and anti inflammatory treatments. The aim of this study was to evaluate a topical emulsion containing lactoferricin 7.5%, verbascoside 0.1% and glycerophosphoinositol-lysine 2%, applied daily, in dogs with microbial overgrowth.

MATERIALS AND METHODS

Ten dogs were included according to good general practice guidelines. The emulsion was daily applied using one pump spray at 10 cm of distance. Visits were performed at day 0, 14. Each time evaluation of CADESI, VAS and cytological smears were done. Samples were quantitatively judged for keratinocytes, cocci and *Malassezia* spp. at immersion oil field (score: 0:<5/100x; 1: 5-10/100x; 2: 10-20/100x; 3: 20-40/100x; 4: >40/100x). Descriptive statistical analysis was performed. The Wilcoxon signed rank test for paired samples was used to determine differences in the mean number of CADESI, VAS, keratinocytes, cocci and yeasts before and after treatment. A $P < 0.05$ was considered statistically significant.

RESULTS

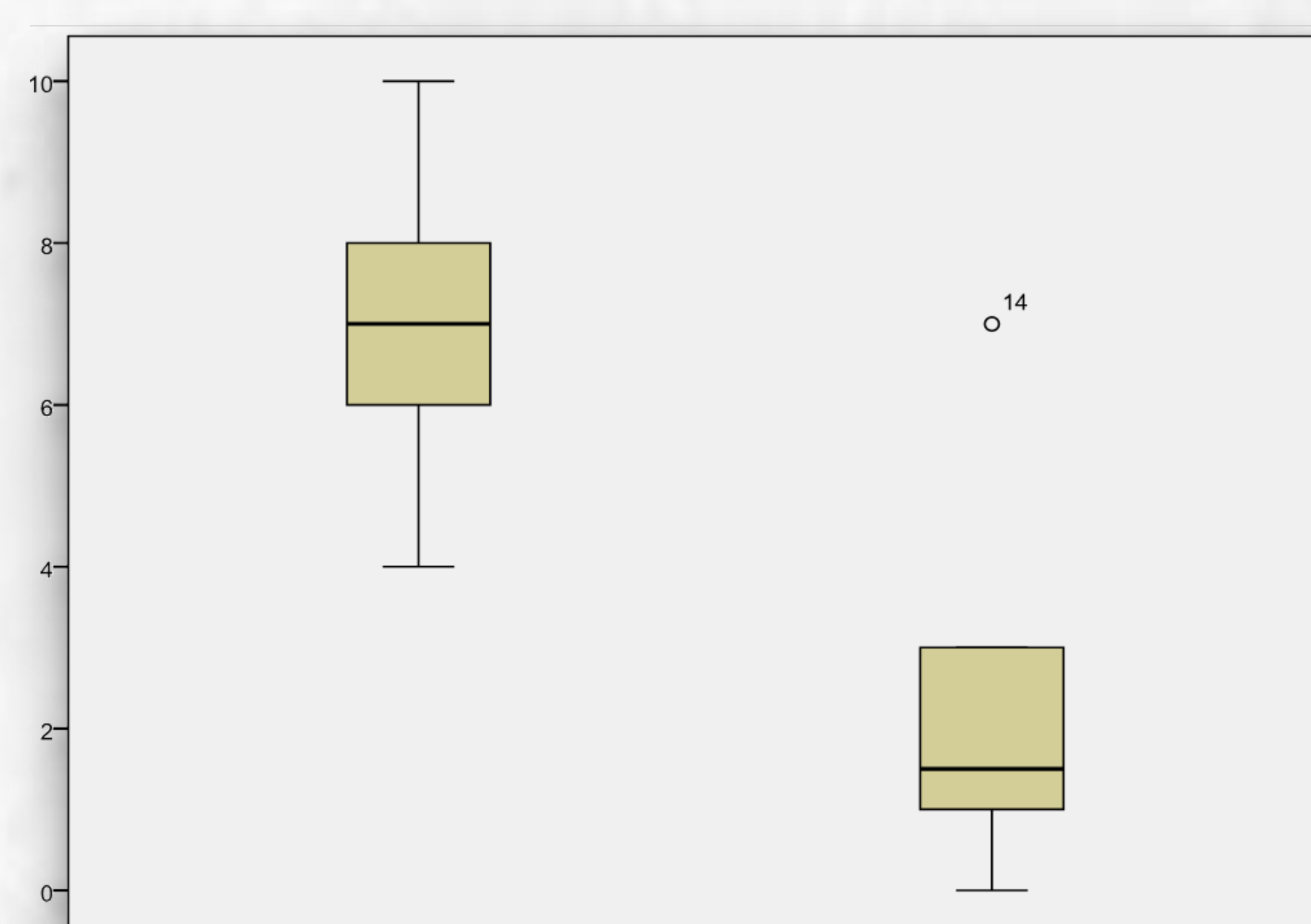
The means results were: 6.90 (95% confidence interval: 5.49-8.31) and 2.10 [95% confidence interval (CI): 0.69-3.51] for CADESI ($P=0.007$); 4.30 (95% CI: 2.83-5.77) and 3.10 (95% CI: 1.77-4.33) for VAS ($P=0.016$); 2.90 (95% CI: 2.37-3.43) and 1.20 (95% CI: 0.75-1.45) for keratinocytes ($P=0.002$); 2.00 (95% CI: 1.17-2.83) and 0.80 (95% CI: 0.14-1.46) for cocci ($P=0.008$); 0.80 (95% CI: 0.24-1.36) and 0.40 (95% CI: 0.03-0.77) for *Malassezia* ($P=0.063$).

CONCLUSIONS

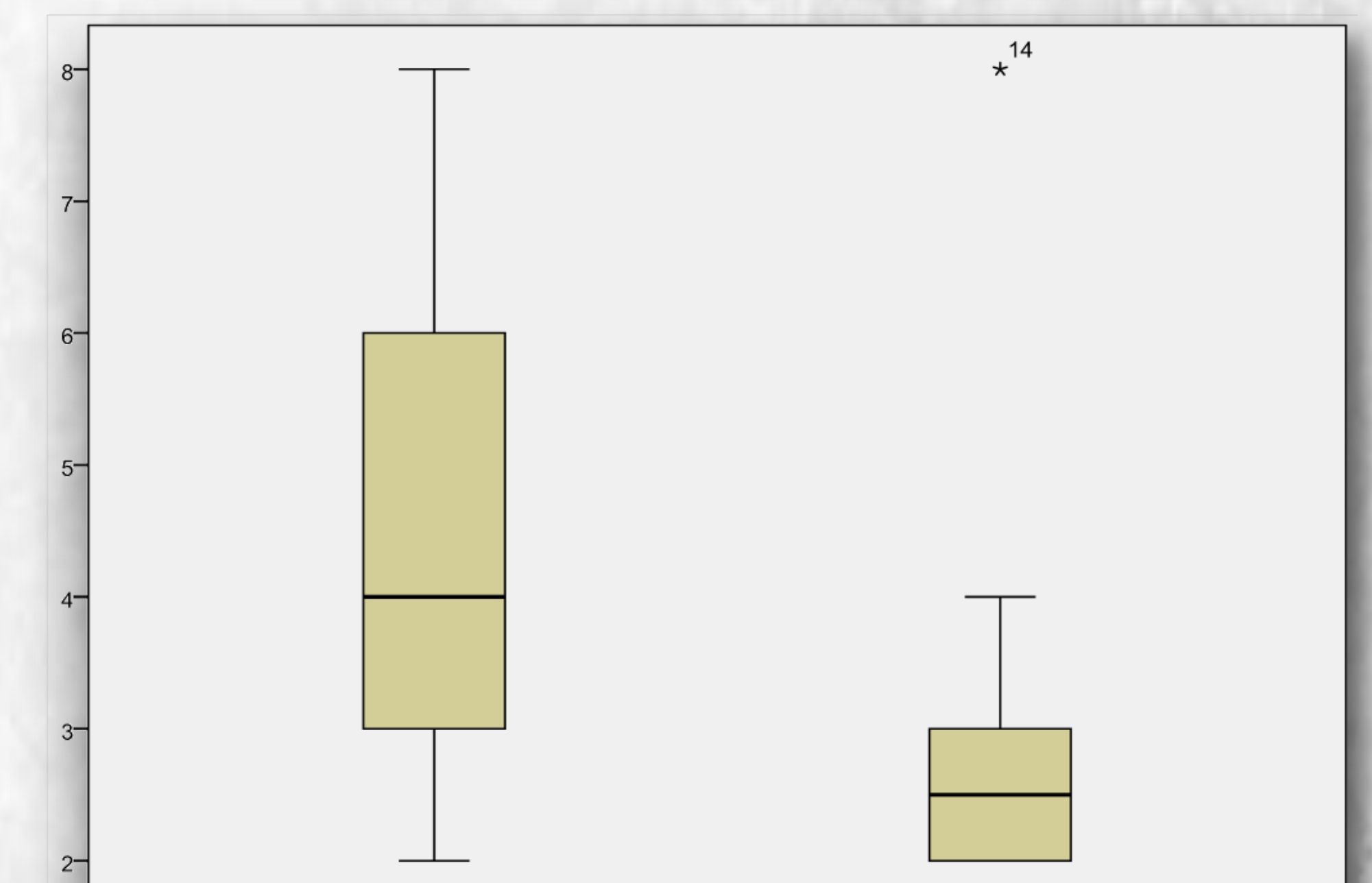
Results of this non-controlled study suggest that the tested emulsion might improve clinical signs and reduce bacterial overgrowth in skin folds and atopic dermatitis. Further studies are needed to confirm these results and application in atopic dermatitis skin lesions control.

REFERENCES

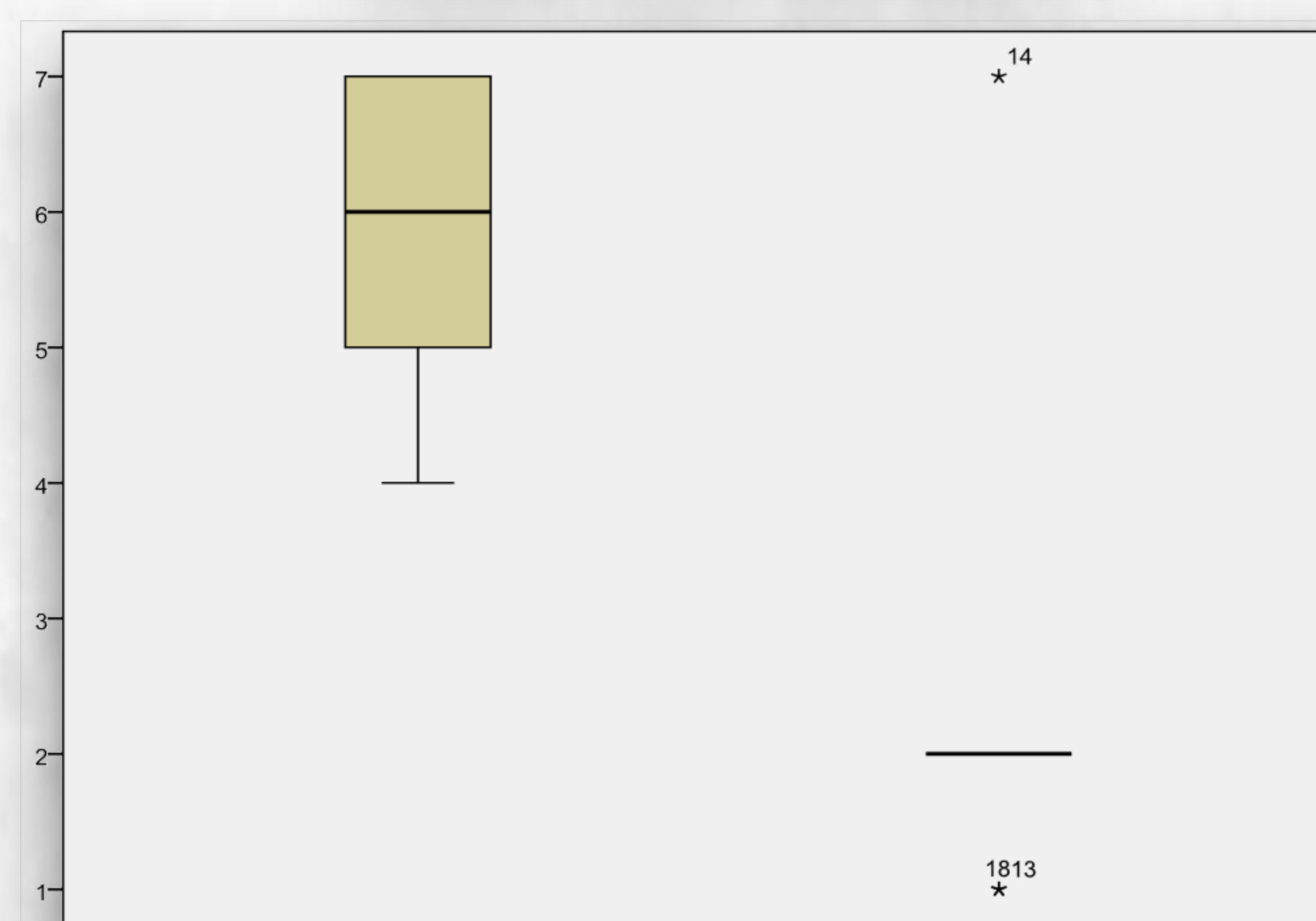
1. Lloyd DH. Alternatives to conventional antimicrobial drugs: a review of future prospects. *Veterinary Dermatology* 23:299-304, 2012. 2. Gifford JL, Hunter NH and Vogela HJ. Lactoferricin: a lactoferrin-derived peptide with antimicrobial, antiviral, antitumor and immunological properties. *Cellular and Molecular Life Science* 62:2588-2598, 2005. 3. Vertuani S, Beghelli E, Scalambra E *et al.* Activity and stability studies of verbascoside, a novel antioxidant, in dermo-cosmetic and pharmaceutical topical formulations. *Molecules* 16:7068-7080, 2011. 4. Ammons MC, Copié V. Mini-review: Lactoferrin: a bioinspired, anti-biofilm therapeutic. *Biofouling* 29(4):443-55, 2013.



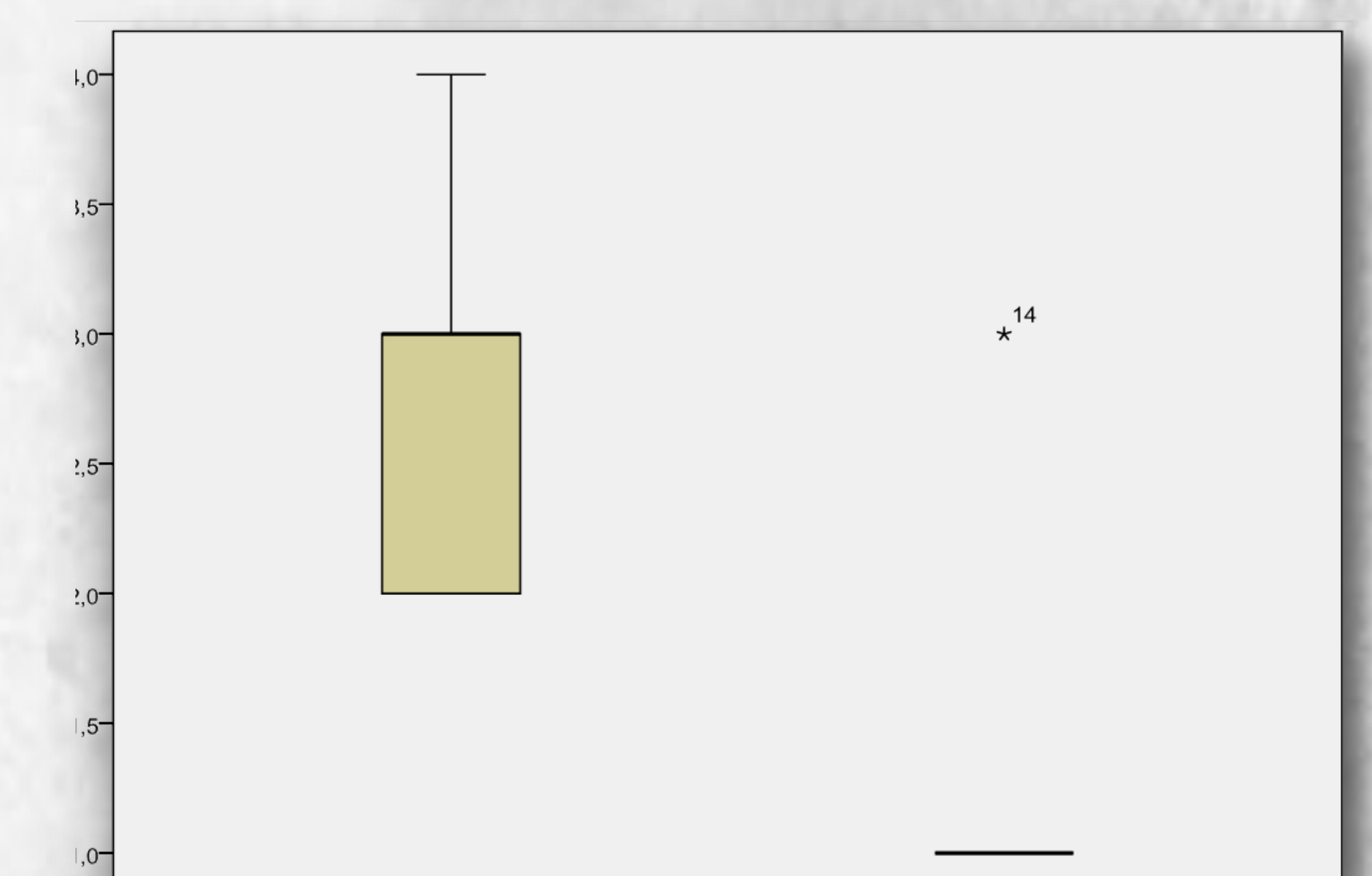
CADESI: day 0 and day 14



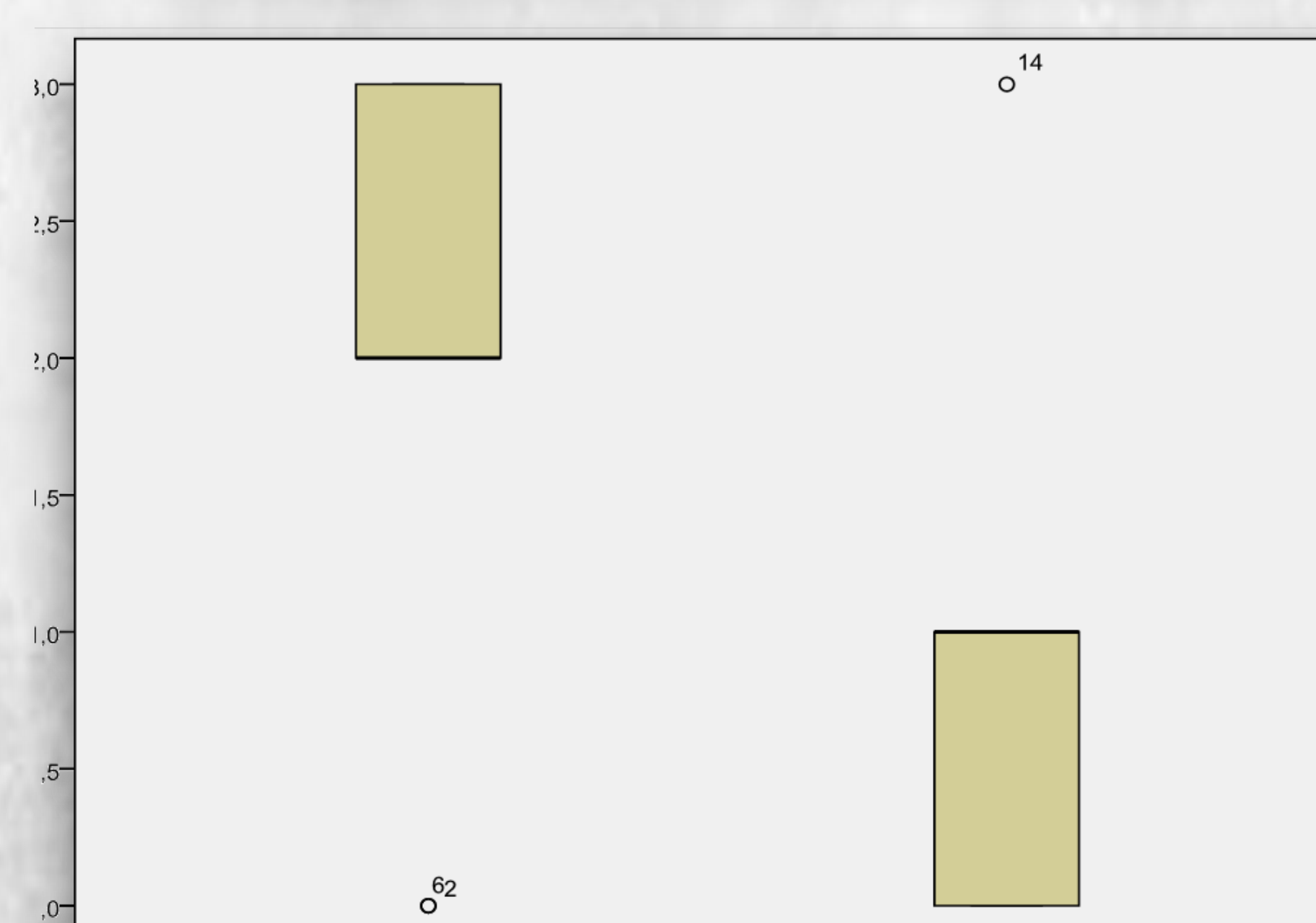
VAS: day 0 and day 14



Cytology general: day 0 and day 14



Keratinocytes: day 0 and day 14



Cocci: day 0 and day 14



Malassezia spp.: day 0 and day 14