

administration group (once daily) and the intermittent administration group (less than two times a week). The former group in CSA was only significantly larger than control. The other comparisons were not statistically significant. We first assessed the skin in dogs with CS using objective skin parameters. These results suggested that the amount of cortisol production may contribute to the corneocyte size, with less influence on the skin barrier function and hydration in dogs.

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## FC 16

### Establishment and pharmacological modulation of a canine skin organ culture model

F. ABRAMO\*, A. PIRONE\*, C. LENZI\*, M. F. DELLA VALLE† and V. MIRAGLIOTTA\*

\*Department of Veterinary Sciences, University of Pisa, Pisa, Italy; †Science Information and Documentation Centre (CeDIS), Innovet Italia SRL, Milano, Italy

Although canine skin models are already available as either monocellular or organotypic cultures, they only partly recapitulate normal skin organization and function. The objective of this study was to establish a canine serum-free skin organ culture model and to test its pharmacological modulability. Normal skin was obtained from eight dogs referred for mastectomy. Biopsy samples were cultured in triplicate in Williams' E medium supplemented with penicillin/streptomycin, insulin, hydrocortisone and glutamine. Three experimental designs were performed: a) two week viability of culture ( $N = 2$ ); b) Dexamethasone (DMS) inhibition of Epidermal Growth Factor (EGF) induced effects ( $N = 3$ ); c) Palmitoylethanolamide (PEA) down modulation of compound 48/80 induced mast cell degranulation ( $N = 3$ ). Skin morphological features were well maintained up to day 14. Normal keratinocyte differentiation was confirmed by cytokeratin (K) 10, K14 and loricrin immunostaining. Epidermal thickness significantly decreased at day 14. Keratinocyte proliferation decrease was observed at day 7 and 14. Treatment with EGF induced both keratinocyte proliferation and thickening of epidermis that were counteracted by DMS. Compound 48/80 induced mast cell degranulation and the number of degranulated mast cells was reduced by PEA. One-way ANOVA in conjunction with Bonferroni's Multiple Comparison Test was used for statistical comparisons. Canine skin full thickness culture may offer unique opportunities to study skin pathophysiology and drugs mode of action in a biologically relevant 3D environment with the same three dimensional cell-cell and cell-matrix contacts and communications present in the intact tissue.

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## FC 17

### The feline skin microbiota: the bacteria inhabiting the skin of healthy and allergic cats

C. E. OLDER\*, A. DIESEL†, A. P. PATTERSON†, C. SMITH\*, J. MANSELL\*, T. JOHNSON‡, K. WAHL\*, J. S. SUCHODOLSKI† and A. RODRIGUES HOFFMANN\*

\*Veterinary Pathobiology, Texas A&M, University, College Station, TX, USA; †Small Animal Clinical Sciences, Texas A&M University, College Station, TX, USA; ‡Veterinary and Biomedical Sciences, University of Minnesota, St. Paul, MN, USA

The feline body is colonized by a variety of microorganisms, including beneficial, commensal and pathogenic microbes. Previous studies have shown that the skin of humans and dogs with atopic dermatitis and allergies are colonized by a different microbiota than individuals who are not affected. The objectives of this study are to describe the bacterial microbiota inhabiting different skin surfaces of healthy cats and to identify significant differences between the skin microbiota of healthy and allergic cats. Eleven allergic cats, most with skin lesions, and eleven healthy cats were enrolled in this study. From the allergic cats, superficial samples from the nostril, axilla, groin, dorsum and interdigital skin were collected. From the healthy cats, superficial samples from the nostril, axilla, groin, dorsum, interdigital, chin, conjunctiva, dorsal nose, ear canal, preaural space, mouth and vagina/penis were collected. Genomic DNA was extracted from the swabs, amplified using primers targeting the 16S rRNA region, sequenced on an Illumina miSeq instrument, and the resulting sequences were processed using QIIME. The community membership and structure showed differences in bacteria inhabiting mucosal *versus* haired skin sites. The most abundant phylum in the different regions of healthy cats was found to be *Proteobacteria*, *Bacteroidetes* and *Firmicutes*. In conclusion, our study showed that the skin of cats is colonized by a diverse bacterial microbiota. In addition, the skin of healthy cats has a more rich and diverse microbiota than allergic cats and is colonized by different bacterial groups.

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## FC 18

### The effect of feeding dogs with different amounts of linoleic acid on the concentration of linoleic acid in canine stratum corneum

I. POPA\*, A. SOLGADI†, J. PORTOUKALIAN‡, D. ALLAWAY§ and A. WATSON¶

\*Faculty Pharmacy, University Paris-Sud X, Chatenay-Malabry, France; †Department Pharmacy, University Paris-Sud, Chatenay-Malabry, France; ‡University of Lyon, Lyon, France; §WALTHAM Centre for Pet Nutrition, Leics, UK; ¶Research, Royal Canin SAS, Aimargues, France

The stratum corneum (SC) is the outermost layer of the epidermis, forming a barrier to the environment and maintaining skin homeostasis. Linoleic acid (LA) is involved in the formation of the intercellular lipids of the SC. We evaluated the impact of feeding LA on