Allergy approach to a dog population from a veterinary dermatology consultation at the tropical inland city of Londrina, Paraná, Brazil

Cecci GM[1], Cardoso ML[1], Bento OP[2], Martins LM[3]
1. Departamento de Clínicas Veterinárias, Universidade Estadual de Londrina, Londrina, Brazil
2. Departamento de Zootecnia, ICAAM - Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Escola de Ciências e Tecnologia, Universidade de Évora, Évora, Portugal
3. Departamento de Medicina Veterinária, ICAAM - Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Escola de Ciências e Tecnologia, Universidade de Évora, Portugal

Introduction

Living and medical care conditions are associated to an **increased prevalence of allergy** in humans and dogs (1). **Indoor life** is associated with an increased exposure to dust mites, the most sensitizing agents for dogs (2). Indoor life may also favor sensitization to molds, while an **outdoor environment** would favor pollen sensitization (3). **Skin barrier-related genetic frame** (4) as well as **environmental living conditions** (5) are key-role players in sensitization and allergy triggering. Living in a **persistently hot and wet tropical climate** may in turn favor environmental conditions related to the prevalence of airborne allergens and skin barrier disruption, with consequences on allergy.

Materials and Methods

Patient selection and characterization
● 111 allergic dogs (60 males and 51 females) selected by clinical evaluation (Favrot's criteria).
● Submitted to food allergy restriction measures.
● Period of evaluation: 2015 to 2018.
● 35 patients (33.3%) from predisposed breeds.
● 74.8% indoor and 25.2% outdoor.

Results

● **Age at first signs:** 55% at 1-3 years; 45% at >3 y
● **Atopic dermatitis (AD):** 90.9% (starting 1-3 y = 42.6%; >3 y = 58%)
● **AD + FA:** 12.6%; **Flea allergy dermatitis** 14.4%
● **Dermatitis due to** *Malassezia* **overgrowth (MO):** 49.6% (mostly in the AD group) ● **Non otitis MO:** 29% (Figs)
● **Skin barrier disruption (mainly with seborrhea):** 59%
● **CADESI-4: Light** = 13.5%; **moderate** = 33.3% ; **severe** = 53.2% (Rather similar in the predisposed breeds group)
● **Positive correlation** (Pearson): **CADESI-4** and **FA** (r=0.2; p=0.03)

　　　　　　　　　　Seborrhea (r=0.41; p<0.00001)
　　　　　　　　　　MO (r=0.38; p=0.00003)
　　　　　　　　　　Otitis (r=0.23; p=0.01).
　　　　　　MO and **Indoor living** (r=0.22; p=0.02)
　　　　　　　　　　Otitis (r=0.64; p<0.00001)
● **Negative correlation** (Pearson): **Flea allergy** and **MO** (r=-0.25; p=0.0079)
　　　　　　　　　　Otitis (r=-0.3; p=0.001)
　　　　　　　　　　Conjunctivitis (r=-0.2; p=0.03)

● **Comorbidities:** 47.5% (1-3 y); 60% (>3 y) starting groups
● **Food allergy (FA):** 23.7% (88.9% starting 1-3 y; 11.1% >3 y)
● **Otitis:** 36%; **Conjunctivitis:** 18.9%

Aim

To characterize the allergy frame of a tropical dog population attending the State University of Londrina and Veterinary Clinics Life Space dermatology outpatient consultation.

Figs: Dermatitis due to MO

Conclusions

In this **tropical dog population**:
A **relevant amount of dogs started with AD even >3 years old**, which may be associated with a **rather predisposing environm**
Starting of FA signs much sooner than AD was in accordance with most reports and should be independent of environmental predisposition.
AD + FA prevalence was found within the general reported range (7-25%) (6).
Clear **clinical worsening trend has been associated with seborrhea, FA, indoor living** (as well as in Portuguese temperate continental climate) (7), **otitis and MO**.
MO is probably more common without the correspondent otitis and also **more severe**, even in the outdoor group, despite th
positive correlation with indoor living.
The kind of allergen sources involved in environmental allergy/AD would help equating a possible specific immunotherapy ap
(1,8).

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Conflict of interest: In relation to this presentation I declare the no conflict of interest.

Universidade Estadual de Londrina

UNIVERSIDADE DE ÉVORA
ESCOLA DE CIÊNCIAS E TECNOLOGIA
DEPARTAMENTO DE MEDICINA VETERINÁRIA
Contact: lmlm@uevora.pt

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