Horse sensitization and allergy to mold, pollen, dust and storage mites, and culicoides in a horse population from southern Portugal

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Introduction

Allergy in horses may present different forms like recurrent airway obstruction with cough and dyspnea or pruritic hives and eczema, with scaly and crusty alopecia (1). Those signs may resemble human, cat or dog atopy, but some horses may also present **food hypersensitivity, mostly to oat, wheat and corn** (2,3). Identification of the most implicated allergen sources in each region is then useful for an effective allergy control. **Clinical inquiry** should be done in the presence of **compatible clinical signs**, followed **by intradermal testing (IDT) for environmental sources** and **exclusion diets if food allergy is suspected** (4). When environmental or culicoides allergy is suspected, diagnosis should proceed by **specific IgE determination, especially if allergen-specific immunotherapy is equated** (2,5,6).

Materials and Methods

Twenty one horses (16 males and 5 mares; 13 cross-breed, 5 lusitanic and 3 arabian cross) presenting with compatible clinical signs were selected from a consultation population. Each horse was submitted to clinical inquiry followed by IDT with a battery of 18 commercial allergen extracts from molds, pollens, dust and storage mites, and culicoides (see Table). IDT was performed on a tricotomized area from left neck, by administering 0.05 mL of each extract and positive and negative controls. Results were read upon 15 min for wheal and flare reactions and scored from 0 to 4. Statistical significance was set at $P<0.05$ for Pearson correlation assessment between parameters.


Fig. 1


Fig. 2


Fig. 3

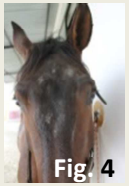
Fig. 4


Fig. 5

		Aerogenous molds	Alt a	Asp f	Wild grasses	Art v	Que i	Dac g	Phl p	Lol	Fes r	Par j	Der p	Der f	Lep d	Aca s	Tyr p	Eur m	Culicoides
Positivity (0-4; n=21)	No.	5	9	5	2	2	0	0	2	10	1	4	3	7	6	5	7	8	14
	Range	1-3	1-2	1-2	1	1	0	0	1-2	1-2	0	1-3	1-2	1-3	1-3	1-2	1-3	1-4	1-4
	Mean	1.75	1.44	1.2	1	1	0	0	1.5	1.3	0	1.75	1.33	1.71	1.33	1.8	1.71	2	2.3
	SD	1	0.53	0.45	0	0	0	0	0.71	0.5	0	0.96	0.57	0.95	0.81	0.45	0.76	1.06	0.9

Aim

To identify the main allergen sources for horses living in the region of Alentejo, southern Portugal, allowing for better avoidance strategies or immunotherapy.

Results

Patients aged 3-29 years old (mean=13,5y; SD=6.645). Twenty individuals presented largely with head and neck (Fig. 1-4), flank, croup and dock (Fig. 5) pruritic-derived alopecia, and one with sneezing (Fig. 6) and coughing, with pulmonary wheezing and crackles, and dyspnea. Intradermal results (Figs. 7 and 8 – examples) were as follows (table).

Conclusions

No correlation was found between **i) IDT response to molds, mites, pollens or culicoides** and **ii) predominant outdoor or indoor living and sensitization to molds, pollens or mites**. **Except for the majority of culicoides-sensitized, where a seasonal worsening was found, allergy signs appeared perennial** due to a possible continuous prevalence of different molds, pollens and dust or storage mites in horse housing or to a possible food allergy.


Fig. 6

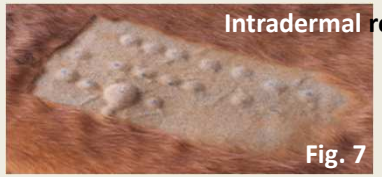

Fig. 7


Fig. 8

Conflict of interest: In relation to this presentation I declare that there are no conflicts of interest.

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