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Clinical characteristics and causes of pruritus in cats: a multicentre study on feline hypersensitivity-associated dermatoses

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Abstract

Hypersensitivity dermatitides (HD) are often suspected in cats. Cats with HD are reported to present with one or more of the following patterns: miliary dermatitis, eosinophilic dermatitis, self-induced symmetrical alopecia or head and/or neck excoriations. Previous reports on feline HD included small numbers of animals, took place in geographically restricted areas or did not compare these conditions with other causes of pruritus. The goal of the present study was to analyse 72 parameters covering signalment, clinical, laboratory and treatment characteristics from a large group of pruritic cats from different geographical areas. Of the 502 cats, the following diagnoses were made: flea HD (29% of cases), food HD (12%) nonflea/nonfood HD (20%) and other diseases in which pruritus was a feature (24%). Cats with signs consistent with a HD but which did not complete a food trial were not analysed further (15% of cases). Most cats with nonflea HD exhibited signs compatible with one or more of the four typical lesional patterns, but none of these patterns was found to be pathognomonic for any specific diagnosis. Food HD and nonflea/nonfood HD were found to be clinically undistinguishable. Young adult, purebred and female cats appeared predisposed to nonflea/nonfood HD. As many diagnoses presented with similar lesional patterns, a thorough clinical work-up is required for establishment of a specific diagnosis.

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Introduction

Hypersensitivity dermatitides (HD) are often suspected in companion animals, and these include flea bite hypersensitivity dermatitis, cutaneous adverse food reactions, urticaria, angioedema and atopic dermatitis (AD).[1] The use of the term 'feline AD' remains debatable, however, because its clinical presentation and histological features differ markedly from those of its human and canine counterparts. Furthermore, the use of the adjective 'atopic' (meaning 'IgE-mediated') itself is questionable for this disease, because the importance of IgE in its pathogenesis has not been firmly demonstrated.[2,3] Very few studies have investigated the role of IgE in the development of HD in cats.[2,4–6] Additionally, there is evidence suggesting the heterogeneity of feline IgE and that allergen-specific IgE serum levels do not correlate with clinical signs of HD in cats.[7–9] Finally, one study reported that up to 35% of cats with HD have negative allergen-specific intradermal and serological tests.[2] Therefore, and following the current nomenclature of human and canine allergic skin diseases,[10,11] as long as the importance of IgE has not been firmly demonstrated in cats with pruritic allergic skin diseases, the authors of this paper will not use the term 'feline AD' and replace it with the more generic term of 'HD'.

The diagnosis of feline nonflea HD (i.e. nonflea bite-associated HD) is usually based on the exclusion of

Table 4. Associated clinical signs

	(1) Nonflea HD	(2) Nonflea HD/ nonfood	(3) Food HD	(4) Flea HD	(5) OD	(1) versus (4)	(1) versus (5)	(2) versus (3)
n	161	100	61	146	121			
Nondermatological signs (%)	67 (42)	42 (42)	25 (41)	44 (30)	49 (40)	0.02	n.s.	n.s.
Digestive signs (%)	22 (14)	9 (9)	13 (21)	17 (12)	10 (8)	n.s.	n.s.	0.03
Respiratory signs (%)	10 (6)	6 (6)	4 (7)	5 (3)	5 (4)	n.s.	n.s.	n.s.
Otitis (%)	24 (15)	20 (20)	4 (7)	4 (3)	23 (19)	0.0002	n.s.	0.02
Conjunctivitis (%)	13 (8)	8 (8)	5 (8)	4 (3)	8 (7)	0.04	n.s.	n.s.

Proportions were analysed using Fisher's exact test.

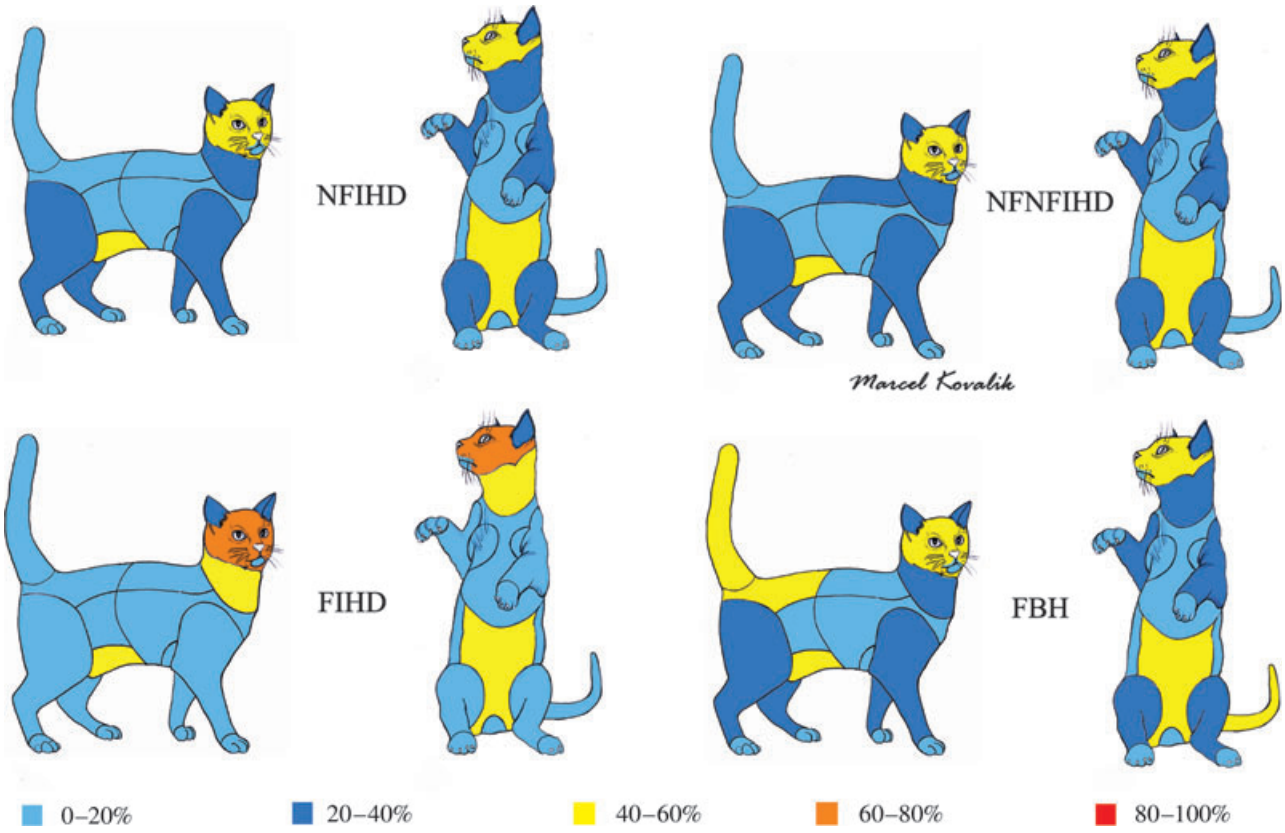

Figure 3. Silhouettes depicting the proportion of distribution of lesions in cats with nonflea HD, nonfood HD, food HD and flea HD. NFIHD, non food induced hypersensitivity dermatitis; NFNFIHD, non flea, non food induced hypersensitivity dermatitis; FIHD, food induced hypersensitivity dermatitis; FBH, flea bite hypersensitivity.

when compared with the rest of the study population, males were over-represented in the flea HD group, while females dominated the nonflea HD group. Among pure-bred cats, Abyssinians were only present in the nonflea HD group. The mean age at onset was also lower in the nonflea HD group (3.4 years) when compared with the flea HD group (4.4 years; $P = 0.001$). The pruritus was also more intense in cats with nonflea HD (6.4 versus 5.7 grade; $P = 0.001$).

Cats from both groups presented with one of the four main lesional patterns, but the frequencies of each pattern varied significantly between groups (Table 2); cats with flea HD presented more frequently than cats with nonflea HD with miliary dermatitis (35 versus 19%; $P = 0.001$) and less commonly with eosinophilic diseases (14 versus 25%; $P = 0.01$), head and neck excoriations (38 versus 59%; $P = 0.0002$) and symmetrical alopecia (39 versus 52%; $P = 0.02$). Interestingly, cats with nonflea HD (46%) presented more often with two or more lesional patterns compared with cats having flea HD (46 versus 28%; $P = 0.007$).

The distribution of skin lesions was also different between groups (Table 3). The head or face ($P = 0.008$), the ears ($P = 0.02$), the lips ($P = 0.01$) and the hindlimbs ($P = 0.04$) were more frequently affected in cats with non-flea HD, while those with flea HD presented more often with changes affecting the rump or tail ($P < 0.0001$), the flanks ($P = 0.02$) or the dorsum ($P < 0.0001$).

Comparisons between cats with food HD and those with nonflea/nonfood HD

There were few significant differences between cats of these two groups. The mean ages of pruritus onset were similar in both groups; 72 cats with nonflea/nonfood HD (72%) and 32 cats with food HD (52%) exhibited their first pruritus manifestation before 3 years of age ($P = 0.04$). In