Brief Note

Canine Ear Margin Dermatitis: A Retrospective Study of 10 Cases (1988–2012)

犬の耳輪皮膚症：10 症例（1988–2012 年）の回顧的研究

Danny W. Scott*, William H. Miller, Jr.

Department of Clinical Sciences, College of Veterinary Medicine, Cornell University

Received August 9, 2013 and accepted August 31, 2013

Abstract: Canine ear margin dermatitis (EMD) is a visually distinctive disorder in dogs with a typical history and that are otherwise healthy. EMD was diagnosed in 10 dogs, accounting for 0.05% of the canine dermatology cases seen over a 24-year period. Dachshunds are predisposed, and the condition begins at a young age. EMD is bilaterally symmetrical, asymptomatic, stable-to-slowly progressive over time, and incurable.

Key words: dog, ear margin dermatitis

要 約：犬の耳輪皮膚症（Canine ear margin dermatitis: EDM）は、耳以外健康であるという特徴的な病歴を伴った犬の外観上特異的な疾患である。24 年間以上犬の皮膚症例を診察して 0.05%、10 症例の犬が耳輪皮膚症と診断された。ダックスフントは好発犬種で、若齢時から異常は始まっている。耳輪皮膚症は左右対称で、無症候性で、徐々に進行し、不治である。

キーワード：犬、耳輪皮膚症

(Jpn J Vet Dermatol 2013, 19 (4): 225–227)

Ear margin dermatitis (EMD; ear margin seborrhea) is a classic canine skin disorder probably first described by Dr. George Muller and Dr. Robert Kirk in 1976³⁾. Because of the marked breed predilection for the dachshund, EMD is hypothesized to be a genetic abnormality of keratinization²⁾. No age or sex predilections have been described.

EMD has been reported to be “rare”¹⁾ to “relatively common”²⁾. It is characterized by an asymptomatic, bilaterally symmetrical keratinization disorder confined to the pinnal margins^{1–5)}. Whitish-to-brownish-to-yellowish, dry-to-greasy-to-waxy accumulations adhere to the skin and hairs of the lateral and medial pinnal margin (Fig. 1). Hair casts may be prominent. The underlying skin appears noninflamed. Heavy

accumulations of keratinous debris may make the pinnal margins look and feel thickened (Fig. 2). In advanced cases, removal of the keratinous deposits results in alopecia. Remarkably, in spite of EMD being a universally well-recognized condition, we are not aware of a single detailed publication concerning this entity.

A retrospective study was conducted on 10 dogs with EMD examined by the Dermatology Service of the Cornell University Hospital for Animals over a 24-year period (1988 through 2012). EMD was diagnosed when dogs presented with (1) a bilaterally symmetrical, asymptomatic, keratinization disorder confined to the pinnal margins, and (2) no other signs of endocrine or seborrheic disease. Diagnostic tests were not performed. Clinical data on the 10 dogs with EMD are presented in Table 1. EMD was diagnosed in 0.05% (10/20,415 dogs) of the canine dermatology cases, and in 3.5% (9/258 dogs) of the dachshunds seen by the Dermatology Service.

* Correspondence to: Danny W. Scott (Department of Clinical Sciences, College of Veterinary Medicine, Cornell University), Ithaca, New York 14853-6401, USA
FAX +1-607-253-3534 E-mail: shb3@cornell.edu

Fig. 1. Dachshund with ear margin dermatosis (case 2). Note the mild accumulations of keratinous debris and hair casts on the pinnal margin.

Fig. 2. Great Dane with ear margin dermatosis (case 10). Note the severe accumulations of keratinous debris and hair casts resulting in thickening of the pinnal margin.

Table 1. Clinical data on 10 dogs with ear margin dermatosis

Case	Breed	Age (years)	Sex*	Duration	Reason(s) for examination	Follow-up (months)
1	Dachshund	2	M	"Since puppyhood"	Atopic dermatitis, pattern baldness (ventrum)	1
2	Dachshund	6	FS	"Years"	Bacterial folliculitis, iatrogenic Cushing's disease	3
3	Dachshund	10	MC	"Years"	Pattern baldness (pinnae)	3
4	Dachshund	4.5	FS	"Years"	Intervertebral disk disease	2
5	Dachshund	11	FS	"Years"	Bacterial folliculitis, <i>Malassezia</i> dermatitis	12
6	Dachshund	12	FS	"Since she was young"	Pneumonia	1
7	Dachshund	1.5	FS	"Since 8 months of age"	Pattern baldness (pinnae, ventrum)	None
8	Dachshund	9	MC	"Years"	Bacterial otitis externa	6
9	Dachshund	5	FS	"Years"	Atopic dermatitis	None
10	Great Dane	3	FS	"Since 7 months of age"	Color dilution alopecia	None

*M = male; MC = castrated male; FS= spayed female.

Age at disease onset was known for only 20% (2/10) of the dogs (cases 7 and 10): 7 months and 8 months of age. The other owners could only say that the condition had been present for "years" or "since the dog was young". None of the dogs were presented for the EMD. The dogs had not received any treatment for the EMD, and the dermatosis had remained stable or had slowly worsened over time (usually many years). The lesions were not reported to worsen at certain times of the year

nor were these reported to have worsened with the onset of the other dermatologic conditions the dogs were presented for. None of the dogs received treatment from us for their EMD.

To our knowledge, this is the first published study containing detailed information on dogs with EMD. We report for the first time the prevalence of EMD in a dermatology service (0.05%) and in a population of dachshunds (3.5%). As others¹⁾ have suggested, EMD

appears to be a rare disease. We confirmed that EMD is primarily a dermatosis of dachshunds, with an early age of onset. While other sources¹⁻⁵⁾ indicate that EMD may be seen in other breeds with pendulous pinnae, we diagnosed the condition in only one Great Dane. Although the keratinization disorder of EMD is reported to worsen with exposure to dry heat and low humidity^{1,2,5)}, this was not observed in our cases.

Other diseases that can target the pinnal margins in a more-or-less symmetrical fashion include scabies (sarcoptic mange) and vasculitis. Canine scabies is an inflammatory, crusting, intensely pruritic condition. Vasculitis is inflammatory and ischemic with variable degrees of acrocyanosis, infarction, necrosis, ulceration, and crusting. Although anecdotal literature suggests that EMD can progress to crusting, ulceration, and fissures¹⁻⁵⁾, we have not seen this. We suspect that such "severe EMD cases" were misdiagnosed. In such cases, skin biopsies are recommended to distinguish between the keratinization abnormality seen with EMD^{2, 5)} and the changes (e.g., vasculitis) seen with more severe diseases of the pinnal margins.

Because EMD is typically asymptomatic, treatment is not necessary. If desired, the scale and hair casts can be removed and kept at a minimum with topical applications of mild keratomodulatory agents (e.g.,

sulfur, salicylic acid) or moisturizing agents (e.g., fatty acids, lactic acid, urea, propylene glycol) as needed.

EMD is asymptomatic, stable-to-slowly progressive over time, and not reported to be cured by treatment nor to spontaneously resolve. In dogs with a typical history that are otherwise healthy, EMD is a visually distinctive disorder that requires no laboratory testing.

References

- 1) Griffin, C.E., Kwochka, K.W. and MacDonald, J.M. 1993. p. 188. *Current Veterinary Dermatology*. Mosby Year Book, St. Louis.
- 2) Gross, T.L., Ihrke, P.J., Walder, E.J. and Affolter, V.K. 2006. pp. 167–169. *Skin Diseases of the Dog and Cat. Clinical and Histopathologic Diagnosis*. Blackwell Science, Oxford.
- 3) Muller, G.H. and Kirk, R.W. 1976. p. 563. *Small Animal Dermatology*, 2nd ed., W.B. Saunders, Philadelphia.
- 4) Muller, G.H., Kirk, R.W. and Scott, D.W. 1983. pp. 617–620. *Small Animal Dermatology*, 3rd ed., W.B. Saunders, Philadelphia.
- 5) Scott, D.W., Miller, W.H. Jr. and Griffin, C.E. 1995. pp. 837–839. *Muller & Kirk's Small Animal Dermatology*, 5th ed., W.B. Saunders, Philadelphia.