# THE EFFECTIVE USE OF FLURALANER IN THE TREATMENT OF OTODEMODICOSIS IN TWO CATS

## USO EFECTIVO DE FLURALANER PARA EL TRATAMIENTO DE OTODEMODICOSIS EN DOS GATOS

*Diana Ferreira[1], Rafaella Sampaio[2]*
*[1] DMV, MSc, DECVD. One Vet Group. Gaia, Portugal*
*[2] DMV, MSc (c). Instituto de Veterinária, Universidade Federal Rural do Rio de Janeiro - UFRRJ, Seropédica, RJ, Brasil*

*Email para correspondencia:* dianaferreira.dermavet@gmail.com

**ABSTRACT**

**Background** – Otitis externa caused by *D. cati* without the presence of other skin lesions is uncommon. Furthermore, there is no consensus regarding the most effective treatment for otodemodicosis in cats.

**Hypothesis/Objectives** - To report the successful treatment of otodemodicosis in two cats, caused by *D. cati*, with a single dose of a 250 mg fluralaner based spot-on.

**Animals –** In case one, a 3-year-old, neutered male short-haired cat was presented with a three-week history of severe head pruritus. The cat had been diagnosed, two months before, with a neutrophilic nephritis of unknown cause. In case two, a 7-year-old, neutered male, short-haired cat was presented with a two-week history of facial pruritus. This cat was positive for feline immunodeficiency virus.

**Methods and results –** Both cats were diagnosed with otodemodicosis through microscopical examination of samples obtained from the cerumen of both ears which revealed numerous live adult forms of *D. cati*. The cats were treated with a 250 mg fluralaner spot-on (Bravecto® Spot-on solution for cats, MSD Animal Health) with negative cerumen samples for *Demodex* mites at one (in case two) and three-month (case one) rechecks.

**Conclusion and clinical importance -** These cases demonstrate that otodemodicosis is a differential diagnosis of head and neck pruritus in the cat, and that a single dose of the spot-on fluralaner may represent an attractive option for treating otodemodicosis in feline patients.

**Key words:** Otodemodicosis, cats, fluralaner

**RESUMEN**

**Antecedentes**: La otitis externa causada por *D. cati* sin la presencia de otras lesiones cutáneas es poco común. Además, no existe consenso sobre el tratamiento más eficaz para la otodemodicosis en gatos.

**Hipótesis/Objetivos** – Informar sobre el tratamiento exitoso de la otodemodicosis en dos gatos, causada por *D. cati*, con una dosis única de 250 mg de fluralaner spot-on.

**Animales:** En el primer caso, se presentó un gato macho, castrado, de pelo corto y 3 años de edad con un historial de tres semanas de prurito severo en la cabeza. El gato había sido diagnosticado, dos meses antes, de una nefritis neutrofílica de causa desconocida. En el caso dos, se presentó un gato macho, castrado, de pelo corto y 7 años de edad, con un historial de prurito facial de dos semanas. Este gato resultó positivo al virus de la inmunodeficiencia felina.

**Métodos y resultados:** Ambos gatos fueron diagnosticados con otodemodicosis mediante el examen microscópico de muestras obtenidas del cerumen de ambos oídos, las cuales revelaron numerosas formas adultas vivas de *D. cati*. Los gatos fueron tratados con 250 mg de fluralaner spot-on (solución Bravecto® Spot-on para gatos, MSD Animal Health), obteniéndose muestras de cerumen negativas para los ácaros *Demodex* posterior a un mes (en el caso dos) y tres meses (en el caso uno) de tratamiento.

**Conclusión e importancia clínica**: Estos casos demuestran que la otodemodicosis es un diagnóstico diferencial del prurito de cabeza y cuello en el gato y que una dosis única de fluralaner en forma de aplicación directa puede representar una opción atractiva para tratar la otodemodicosis en pacientes felinos.

**Palabras clave:** Otodemodicosis, gatos, fluralaner

## INTRODUCTION

Feline demodicosis is an uncommon parasitic dermatitis. *D. cati* is the species most commonly involved in the development of cutaneous demodicosis and it is usually associated with underlying immunosuppressive conditions and therapies.[1]

Only a few cases of otitis externa caused by *D. cati* have been reported in the literature[1, 2,3,4,5].There is not a clear consensus as to which is the most effective and safest treatment for feline demodicosis. To the author's knowledge, this is the first report of feline otodemodicosis caused by *D. cati*, treated successfully with a single dose of a 250 mg fluralaner based spot-on.

## CASE 1

A 3-year-old neutered male short-haired cat was presented with a three-week history of severe head pruritus. The cat had been diagnosed, two months before, with a neutrophilic nephritis of unknown cause. Dermatological examination showed alopecia and multiple erosive and crusted areas affecting the base of the ears, interscapular area, ventral neck, and periocular areas (Fig. 1). Otoscopy revealed only a low amount of a light brown ceruminous discharge bilaterally. Skin scrapings were unremarkable, and cytology of the erosive lesions identified a very low number of extracellular cocci and a moderate number of neutrophils. Cytology of the ear canals was unremarkable. Samples of the cerumen revealed numerous live adult forms of *D.cati*. Tests for feline immunodeficiency virus (FIV) and feline leukaemia virus (FeLV) were negative. A 250 mg fluralaner spot-on (Bravecto® Spot-on solution for cats, MSD Animal Health) was prescribed. One month later, the pruritus had significantly reduced. Microscopic examination of the cerumen revealed a very low number or dead forms of *D. cati* (Fig. 2). Two months later, the hair had completely regrown on all previously affected areas and microscopic examination of the cerumen was negative for *Demodex* mites.

**Figure 1.** Alopecia and multiple erosive and crusted areas affecting the base of the ears, interscapular area, ventral neck, and periocular areas.

**Figure 2.** Dead forms of *D. cati*

## CASE 2

A 7-year-old, neutered male, short-haired cat was presented with a two-week history of facial pruritus. This cat was positive for FIV. One month earlier, he had been diagnosed with a bilateral otitis externa that improved partially with an ear cleaner (Otoclean®, Ecuphar) and miconazol, prednisolone and polimixine B based ear drops (Conofite®, Belphar). Blood hematology and biochemistry performed two weeks before revealed a moderate leukopenia with neutropenia and a mild lymphopenia. Dermatological examination showed multifocal facial alopecia with mild erosions and occasional papules also affecting the pinnae (Fig. 3). Otoscopy revealed only the presence of a small amount of brownish cerumen. Microscopic examination of plucked hairs were unremarkable. Cytology of the erosive lesions identified a moderate number of neutrophils. Cytology from the ear canals was unremarkable. Samples of the cerumen revealed numerous live adult forms of *D.cati* (Fig. 4). Abdominal ultrasound and thoracic radiographs were unremarkable. A 250 mg fluralaner spot-on (Bravecto® Spot-on solution for cats, MSD Animal Health) was prescribed. One month later, the pruritus had significantly reduced. Microscopic examination of the cerumen failed to reveal the presence of any *Demodex* mites.

**Figure 3.** Multifocal facial alopecia with mild erosions and occasional papules also affecting the pinnae

**Figure 4.** Live adult form of D.cati

## DISCUSSION AND CONCLUSION

**We suspect a causal relationship between the chronic renal disease in case one, and the FIV infection in case two, with the development of otodemodicosis.**
**Published studies have described the successful use of oral fluralaner in the treatment of generalised demodicosis caused by *D. cati* in an adult cat and in the treatment of demodicosis caused by *D. gatoi* in two shelter cats.[6,7] ,another recent article reports efficacy using the combination of sarolaner and selamectin in topical in the treatment of otodemocicidosis in a cat [5]. In our cases, a single application of a 250 mg fluralaner spot-on, a dose labelled for treating fleas and ticks, was effective in the treatment of otic demodicosis caused by *D. cati*.**
**These cases demonstrate that otodemodicosis is a differential diagnosis of head and neck pruritus in the cat, and that a single dose of the spot-on fluralaner may represent an attractive option for treating otodemodicosis in feline patients.**

## REFERENCES


1. Bizikova P. Localized demodicosis due to *Demodexcati* on the muzzle of two cats treated with inhalant glucocorticoids. *Vet Dermatol* 2014; 25: 222–e58.
2. Desch C, Nutting W. *Demodex cati* Hirst 1919: a redescription. *Cornell Veterinarian* 1979; 69: 280-285.
3. Scott D. Feline dermatology 1900-1978, a monograph. *J Am Anim Hosp Assoc* 1980; 16: 331-459.
4. Simpson A. Successful treatment of otodemodicosis due to *Demodex cati* with sarolaner/selamectin topical solution in a cat. *J Feline Med Surg Open Reports* 2021; (7)1: 2055116920984386.
5. Gisseliere Y. Five cases of feline demodicosis. In: *Proceedings of the British Veterinary Dermatology Study Group* 1994; 16: 16-18.
6. Matricoti I, Maina E. The use of oral fluralaner for the treatment of feline generalized demodicosis: a case report. *J Small Anim Pract* 2017; 58: 476-479.
7. Duangkaew L, Hoffman H. Efficacy of oral fluralaner for the treatment of *Demodex gatoi* in two shelter cats. *Vet Dermatol* 2018; 29: 262.