

Primary Causes of Canine *Pseudomonas* spp Otitis

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In the Literature

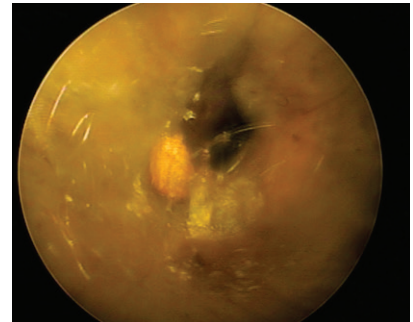
Paterson S, Matyskiewicz W. A study to evaluate the primary causes associated with *Pseudomonas* otitis in 60 dogs. *J Small Anim Pract.* 2018;59(4):238-242.

FROM THE PAGE ...

Pseudomonas spp otitis can be a frustrating condition encountered by both general practitioners and dermatologists. The inherent nature of *Pseudomonas* spp to develop antimicrobial resistance and form thick biofilm adds to the difficulty of effectively treating the condition.

In this retrospective study, medical records from a referral hospital in the United Kingdom over a 6-year period were evaluated to determine primary underlying conditions associated with the development of *Pseudomonas* spp ear infections. For each of the primary diseases identified, age of onset and time from the initial diagnosis of otitis to development of *Pseudomonas* spp otitis were determined.

Sixty dogs met the outlined inclusion criteria; spaniels (particularly cocker spaniels), Labrador retrievers, basset hounds, West Highland white terriers, and German shepherd dogs were overrepresented. Mean age of onset of the first episode of otitis for all dogs was 50 months. The most common primary underlying conditions included allergic disease (atopic dermatitis in 41 dogs), masses (3 neoplastic, 5 benign), and endocrinopathies (6 hypothyroid, 1 hyperadrenocorticism). Autoimmune skin disease was diagnosed less frequently (3 dogs). Progression from the first episode of otitis to *Pseudomonas* spp infection occurred more rapidly in patients for which a mass or autoimmune disease was diagnosed (average, 10 months and 8 months, respectively) as compared with endocrinopathy (average, 19 months) and allergy (average, 28 months). This was attributed to the more severe inflammation observed in patients with masses or autoimmune diseases, which appears to lead to a more rapid switch in otic microbial population.



▲ **FIGURE** Otitis externa caused by *Pseudomonas aeruginosa* infection

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1 Causes of ear disease can be separated into predisposing, primary, and perpetuating causes. Infection, including *Pseudomonas* spp infection, is a perpetuating factor in ear disease. When possible, an underlying primary cause should be identified for improved management.¹
- 2 Certain breeds may be more prone to development of otitis for various reasons (eg, conformation, predisposition to develop other primary causes such as allergies); these patients may benefit from early maintenance ear care (eg, regular periodic cleaning).
- 3 When *Pseudomonas* spp are isolated from the ear canal, aggressive treatment at onset can be beneficial due to the propensity for *Pseudomonas* spp to rapidly develop resistance.²

References

1. Gotthelf LN. *Small Animal Ear Diseases: An Illustrated Guide*. 2nd ed. St. Louis, MO: Elsevier Saunders; 2005.
2. Barnard N, Foster A. How to treat *Pseudomonas* otitis in dogs. *Vet Rec.* 2018;182(4):109-110.