

Characteristics of Middle Ear Effusions in Brachycephalic Dogs

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In the literature

Milne E, Nuttall T, Marioni-Henry K, et al. Cytological and microbiological characteristics of middle ear effusions in brachycephalic dogs. *J Vet Intern Med.* 2020;34(4):1454-1463.

FROM THE PAGE ...

Middle ear effusion in dogs is characterized by the presence of fluid in the tympanic bullae and can be a subclinical finding or associated with vestibular signs, head tilt, and head and neck pain. This condition (also called primary secretory otitis media) has been frequently reported in Cavalier King Charles spaniels,¹ but only a few reports have provided detailed studies of middle ear effusion cytology and histopathology in other brachycephalic breeds.

This prospective study evaluated the inflammatory cell population and histopathologic changes of middle ear effusion in brachycephalic breeds. Cavalier King Charles spaniels made up 50% ($n = 8$) of the 16 live cases enrolled in the study. French bulldogs, boxers, and English bulldogs were also represented. Vestibular signs (including vestibular ataxia), facial paresis/paralysis, pain localized to the head and/or neck, hearing loss, and head shaking/scratching were among the predominant clinical signs. Video otoscopy of the ears showed narrowed or thickened external ear canals in 7 dogs and otitis externa in 9 dogs. Middle ear effusion was evident in all of the patients on myringotomy or aspiration of the middle ear contents; the fluid was macroscopically mucoid in 12 dogs and bloody in 3 dogs. Of the 28 collected and cultured effusions, 22 (79%) had no aerobic, anaerobic, or mycoplasma bacterial growth. Cytologic evaluation of middle ear effusions revealed low cellularity (<15 cells/40× field) with a consistently marked predominance of neutrophils and macrophages.

A variation in histology of the bulla mucosa indicating metaplasia of submucosal glands was noted in the 3 dogs with middle ear effusions and in 1 control dog. This histologic feature should be investigated further in a larger sample of dogs with affected and healthy ears. The results of this study demonstrated broadly similar clinical, morphologic, and cytologic findings of middle ear effusion among brachycephalic breeds.

... TO YOUR PATIENTS

Key pearls to put into practice:

- 1 Brachycephalic morphology may be a major risk factor for middle ear effusions, likely because of obstruction and/or dysfunction of the eustachian tube.
- 2 Patients with middle ear effusion can have a range of clinical signs; vestibular signs (including vestibular ataxia), facial paresis/paralysis, and pain localized to the head appear to predominate.
- 3 The clinical importance of bacteria found on cytology and isolated from middle ear effusions in dogs is uncertain, as most samples from middle ear effusions are negative for bacteria on cytology and bacterial culture.

Reference

1. Cole LK, Rajala-Schultz PJ, Lorch G, Daniels JB. Bacteriology and cytology of otic exudates in 41 cavalier King Charles spaniels with primary secretory otitis media. *Vet Dermatol.* 2019;30(2):151-e44.