

CERUMINOUS GLAND TUMOURS (CGTs): AN IMMUNOPHENOTYPIC STUDY OF 29 CASES

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Abstract

Tumours arising from the ceruminous glands of the external ear canal can present a diagnostic dilemma due to their varied clinical and histological manifestations. Otitis externa is often associated with ceruminous gland tumours (CGTs), but the direct relationship between the inflammation and the development of these neoplasms is not well established. To date, limited immunohistochemical studies have been conducted on these tumours. This study, hence, aimed to describe the immunohistochemical expression pattern of CD117/c-kit and COX-2 protein in canine and feline CGTs and determine the association of expression with selected clinicopathological parameters. This study additionally assessed the value of Ki-67 as a prognosticator, its ability to differentiate adenomas from adenocarcinomas, and its significance in clinical and histopathological characteristics inherent to this neoplasm. Nineteen canine and ten feline cases diagnosed with CGTs between 2013 and 2023 (11 years) were identified from the archives of the Histopathology Laboratory of the Faculty of Veterinary Medicine, UPM. Histopathology reports, submission forms, formalin-fixed paraffin-embedded (FFPE) tissues, and slides stained with haematoxylin and eosin (H&E) were retrieved. Demographic data such as signalment (age, breed, sex) and tumour information (location and size) were recorded. COX-2 protein expression was detected in the cytoplasm of neoplastic cells in 70% of feline ceruminous gland adenocarcinomas ($n = 7/10$), 53% of canine ceruminous gland adenocarcinomas ($n = 8/15$) and 50% of canine ceruminous gland adenomas ($n = 2/4$). Ki-67 index ranged from 0.01% to 0.28% (0.086 ± 0.075) in canines and 0.01% to 0.36% (0.107 ± 0.101) in felines. Similarly, the mitotic count ranged from 0 to 9 and 0 to 13 in canines and felines, respectively. CD117/c-kit expression was absent in all feline and canine CGTs. This study helped justify that inhibitor against COX-2 can be used in adjunctive therapy in a subset of cases, especially malignant advanced CGTs. However, CD117/c-kit does not play a role in the tumourigenesis of canine and feline CGTs.

Keywords: Ceruminous gland tumours; COX-2; CD117; immunohistochemistry, Ki-67