## **APOCRINE ADENOMA IN CANINE-A CASE REPORT**

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Received: 28.09.2018; Accepted: 01.12.2018

## SUMMARY

A 14 year old male Mongrel dog was presented with the history of solitary, firm, pedunculated and creamish-white swelling (12-15 cm in diameter) at the right perianal region. Histopathologically, multilobulated tumor consisted of glandular epithelium with abundant granular eosinophilic cytoplasm separated by fine fibrovascular connective tissue. Plasma cells admixed with macrophages were evident at certain places. The glandular cuboidal epithelium showed the presence of few mitotic figures as well.

Key words: Apocrine adenoma, Dog, Histopathology

The adnexal tumors of skin including apocrine tumors are more common in canines and found rarely in horses and felines (Jasik *et al.*, 2009). Apocrine sweat gland tumors in dogs contribute approximately 0.7-2.2% of all the neoplastic conditions associated with the skin (Elemir *et al.*, 2003). An around 70% canine apocrine sweat gland tumors are benign in nature and certain breeds like Golden Retriever are predisposed to the malignancies (Nibe *et al.*, 2005; Souza *et al.*, 2006). Approximately 1.7% epithelial tumors in dogs are apocrine carcinomas. In apocrine sweat gland tumors, no sex predisposition in canines has been reported and generally accounted in age group between 8 to 11 years.

Apocrine gland adenoma are often found in the head, neck and limbs of the dogs. The axillary and inguinal area are the most preferred sites for malignancy in apocrine glands (Meuten, 2008). These tumors are often encountered as lumpy nodules, multilobulated or cystic, underneath the subcutaneous tissue, which are poorly demarcated and ulcerate in later stages. These tumors often can be of mixed type and differentiation between benign and malignant apocrine gland tumors is quite difficult (Kheirandish *et al.*, 2015). During malignancies apocrine gland tumors can spread through hematogenous or lymphatic route (Baharak *et al.*, 2012). The present case report puts on record a case of apocrine adenoma in a dog.

A 14 years old male Mongrel dog with the history of swelling in the right perianal region since last 2.5 years was presented for checkup at Multispecialty Veterinary Hospital at DGCN COVAS,CSKHPKV, Palampur. History revealed that initially the growth was a small swelling but gradually its size was increased which became a reason for difficult defecation in dog. Swelling was surgically excised at the hospital as a suspected case of perianal tumor. The excised tissue samples were collected in 10% neutral buffered formalin for histopathological examination. The tissue sample after fixation was subjected to histopathological processing and staining as per standard procedures (Luna, 1968). Haematoxylin and Eosin (H&E) stained slides were microscopically examined for any pathological alterations and were digitally photomicrographed.

On gross examination, the perianal swelling was found to be firm, not well demarcated, raised, focal, pedunculated and creamish-white in appearance with size ranging from 12-15 cm in diameter. Microscopically, stained sections showed the presence of glandular epithelium separated by fine fibrovascular connective tissue stroma (Fig.1). The single layered cuboidal cells showed abundant granular eosinophilic cytoplasm. The profuse eosinophilic secretions have been observed within the lumina which resulted in attenuation of lining epithelial cells (Fig.2). At places, plasma cells admixed with macrophages and eosinophilic secretion were evident in the lumen. Papillary tumor showed invagination of epithelium into lumina, supported by fibrovascularstroma (Fig. 3). Presence of mitotic figures in the cuboidal epithelium of apocrine gland was not uncommon. Multiple cystic dilatation of apocrine gland was also observed (Fig. 4).

Apocrine gland tumors are rare form of sweat gland tumors and can be distributed at any region of the skin (Chintamani *et al.*, 2003). The apocrine epithelium is the main constituent of apocrine adenoma, apocrine hyperplasia, apocrine intraductal carcinoma and invasive apocrine carcinoma (Bezic *et al.*, 2007). Although these tumors are benign in nature but can show metastases to regional lymph nodes and other organs (Nibe *et al.*, 2005). In present study, microscopic examination revealed glandular epithelium separated by fine fibrovascular connective tissue stroma along with cystic dilatation of apocrine gland which is an indicative of apocrine adenoma, as recorded in earlier studies (Zagorianakou *et al.*, 2006). The complete excision of localized apocrine tumors is always an acceptable therapy (Chamberlain *et al.* 1999). As in

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Fig 1. Multilobulated tumor with glandular epithelium separated by fine fibrovascular connective tissue. 2. Cuboidal epithelium attenuated with eosinophilic secretion within the lumina. 3. Apocrine gland showing papillary projections into the lumen along with mitotic figures in the cuboidal epithelium. 4. Multiple cystic dilatation of apocrine gland.

present case, the benign nature of the adenoma leads to no reoccurrence after excision.

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