INCIDENCE OF CANINE PERIANAL TUMOURS : A RETROSPECTIVE STUDY

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The perianal region of dogs contain multiple glands, some of which are unique to the area, namely the perianal or circum-anal (hepatoid) glands, the anal sac glands and the anal glands (Moulton, 2008). Perianal (circumanal or hepatoid) glands are modified sebaceous glands present in the perianal skin (Gross *et. al*.,2008). These glands are unique non-secretory abortive sebaceous glands in dogs and marsupials, situated around the anus in a uniform circle up to 2 cm from the anal orifice and scattered areas on the prepuce, tail, hind legs and trunk.

Tumors of perianal glands are the third most common tumours among intact aged male dogs (Turek and Withrow, 2013). Perianal adenomas comprise more than 80 per cent of the perianal gland tumours and are slow growing and develop under the influence of androgens, therefore occur in older intact male dogs and occasionally in spayed females. Perianal adenocarcinomas occur in castrated or intact males, as well as in females. Apocrine gland adenocarcinomas occur more commonly in females. Management of this condition is essential to prevent patient discomfort, distress and other related complications.

Surgical excision of the tumour with appropriate margination based on the tumour type is the more prudent approach for the management of perianal tumours in canines (Morris and Dobson, 2008). In case of perianal adenomas, castration must also be performed. Electro-chemotherapy has been reported to be effective for the treatment of perianal tumours but due to the long therapeutic period, its use as an adjunct for cyto-reduction before or after surgical excision is preferred (Torzon*et al*. 2005).

A survey of all cases of canine tumours presented from May 2016 to May 2017 was included in the study. The research was carried out on clinical cases of canine perianal tumours presented to the Small Animal Surgery Out-patient Unit, Madras Veterinary College Teaching Hospital, Chennai -7. A total of n=590 dogs were screened for the presence of tumours. Among this 46 dogs had perineal tumours. Fine needle aspiration cytology was performed on all cases to confirm the type of tumour. The incidence of perianal tumour with respect to age, breed, sex and type of tumour was recorded in this study.

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A total of 590 dogs were presented to Small Animal Surgery Out-patient unit at Madras Veterinary College Teaching Hospital, with presence of tumours during the period of 13 months (May 2016 to May 2017); out of which 46 dogs (7.60%) were diagnosed to have perineal tumours and out of which 41 cases had perianal tumours (91.11%). Perianal tumours had an overall incidence of 6.93 per cent. The incidence rate was in accordance with the findings of Sostaric *et al.* (2013) who reported hepatoid tumours to account for 6.19 per cent (97 cases of 1568 cases) and Lakatos *et al.* (2009) who reported 7 per cent of perianal tumours out of 121 cases of cutaneous tumours.

In this study, the occurance of perianal adenomas was 43.90 per cent (18 cases) and perianal adenocarcinomas was 56.10 per cent (23 cases). These findings were antithetical to the findings of Turek and Withrow *et al.* (2013) who reported the occurrence perianal adenocarcinomas to be approximately 20 per cent. However, Sostaric *et al.* (2013) reported a higher incidence of perianal adenocarcinomas in his study.

In this study, the age group of dogs greater than ten years had a higher incidence (75.61 %) when compared to dogs less than 10 years of age (24.39%). The mean age of occurance of perianal tumour was found to be 11.98 ± 0.55 years. The findings in this study could be attributed to the fact that older intact male dogs had long term exposure to the male hormone testosterone. The findings of the present study were in accordance with that of Tozon *et al.* (2005), Moulton (2008), Withrow *et al.* (2013) and Yumusak *et al*. (2016) who reported that the affected dogs were mostly older in age and intact, the average being 8 to 12 years of age.

Of the 41 clinical cases of perianal tumours presented to the Small Animal Surgery Unit of Madras Veterinary College Teaching Hospital, the breed-wise distribution was as follows: Dachshund (2.43 %), Doberman Pinscher (2.43 %), German Shepherd (2.43 %), Golden Retriever (2.43 %), Rajapalayam (2.43 %), Lhasa Apso (2.43 %), Labrador Retriever (14.63 %), Spitz (26.84 %) and Non-descript canines (43 95 %). Tozon *et al.* (2005) and Yumusak *et al*. (2016) also reported high breed susceptibility in mixed breeds, Labrador Retriever, English Cocker Spaniel, Terriers, Charles Spaniel, Springer Spaniel and Border collie. This could be attributed to possible underlying individual genetic predisposition and that no specific breed susceptibility can be attributed.

With regard to the 41 cases of perianal tumours reported, 38 were males and 3 were females depicting a distribution of 92.68 per cent in males and 7.32 per cent in females. All males were intact and the females were spayed. The sex distribution of the cases concurred with the findings of Moulton (2008), Sostaric *et al.* (2013), Withrow *et al.* (2013) and Yumusak *et al.* (2016) who reported a significantly higher percentage; 5 to 6 fold increased incidence of perianal tumours in male intact dogs than in bitches. This could be attributed to androgen dependency in male dogs and the protection offered by endogenous estrogens in the females.

In the present study, a higher incidence of perianal tumour in older male dogs, showed the need for early neutering of pet dogs to prevent perianal tumour occurrence.

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