CANINE SKIN AND OTHER TUMOURS: A STUDY ON OCCURRENCE AND DISTRIBUTION PATTERN

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The objective of the study was to record the occurrence of spontaneous canine skin and other organs tumours and their sex, breed and age- wise distribution. A total of 150 cases of canine skin and other organs tumours (36.85%) out of 407 dogs presented at clinics/polyclinics during the period from February 2003 to November 2007, were recorded and confirmed histopathologically. The German Shephered breed being the most susceptible (18.67%) followed by Labrador (16.66%).Majority of the tumour cases were recorded in the age group of 8 to 10 years. Histologically, benign tumours in 56.67% and malignant types in 43.33% cases were recorded.

Keywords: Canine skin and other organs tumours, distribution, occurrence

In recent years, due to better health care of companion animals, their life span has increased making them sufficiently aged to develop tumours. The incidence of skin and mammary tumours has been the highest amongst different types of tumours affecting various organ systems in canines, as reported by Runnels et *al.* (1965), Jones and Hunt (1983), Jubb *et al.* (1991) and Buergelt (1997).

The present paper records the frequency of the occurrence of different histopathologically confirmed cases of canine skin and other organs tumours and their type, age, breed and sex-wise distribution pattern, During the period from February 2003 to November 2007, 407 dogs presented with the history of tumourous / hyperplastic growths in skin and other organs at various private dog clinics in Kanpur, Agra and Lucknow, and Government Polyclinics at Lucknow and Mathura were examined. The details regarding age, sex, and breed of reporting individual cases were recorded. The tumours were surgically removed and their types were confirmed histopathologically and analyzed for their distribution

On the basis of age, sex and breeds of the total 407 tumour cases examined, 150 (36.85%) were of canine skin and other organs tumours. Similarly reported by Kirk (1971) more than 45% of all canine tumour (Neoplasm) occur in the skin and subcutaneous tissue. The number would be increased substantial if mammary and oral neoplasms are included. Most of the skin tumours in dogs are of mesenchymal and epithelial derived skin neoplasms. Tumour of sebaceous glands (including peri anal glands) has been the greatest prevalence followed by histocytomas and mastocytomas.

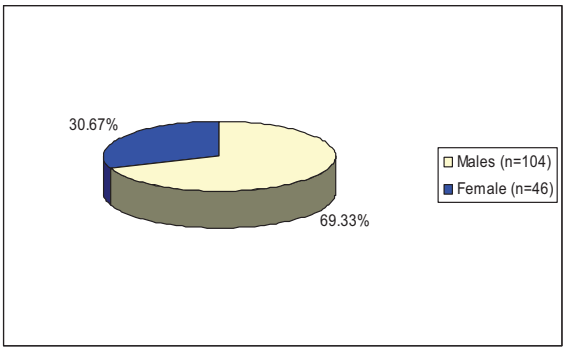
Jemal *et al.* (2002) reported that together with mammary cancers, cancers of the skin comprise 58% of the total cancers occurring in the dog, and thus, account for the majority of canine cancer. The most common neoplasm of the dog is mastocytoma (mast cell tumor), which account for as many as 20% of all possible skin tumour. This occurs most frequently in Boxers, Boston Terriers, and Labrador Retrievers. Aher *et al.* (1994) have also supported the above findings.

Er and Sutton (1989) reported the prominence in occurrence of mastocytoma, histiocytoma and squamous cell carcinoma. In addition, basal cell tumours of the skin and adenexa, which include tumours of sweat, sebaceous and perianal glands, when combined, make the largest grouping.

The important benign type tumours of skin and other organs recorded were 56.67% which included fibroma 6.00% (Fig.2), epithelial papilloma (U.B.) 5.33%, histiocytoma (benign) 5.33% fibropapilloma 4.00%, adenoma of perianal gland 4.00% (Fig.4), adenoma 4.00%, lymphoma 3.33%, papilloma 2.67%, fibromyxoma 2.67% (Fig.7), fibroadenoma 2.67%, cavernous haemangioma 2.67%, sertoli cell tumor 2.00%, melanom (benign) 2%, mastocytoma (benign) 2.00%, dermoid 2.00%, seminoma 1.33%, rhabdomyoma 1.33% (Fig.3), trichoepithelioma 1.33%, lipoma 0.67%, sebaceous adenoma 0.67%) and leiomyoma 0.67%. The malignant tumours of of skin and other organs 43.33% which included osteosarcoma 6.67%, fibrosarcoma 6.00% (Fig.8), basal cell carcinoma 6.00%, adenocarcinoma 4.00%, squamous cell carcinoma 4.00 % (Fig.5), cutaneous mastocytoma (malignant) 3.33%, cutaneous histocytoma malignant 2.67%,

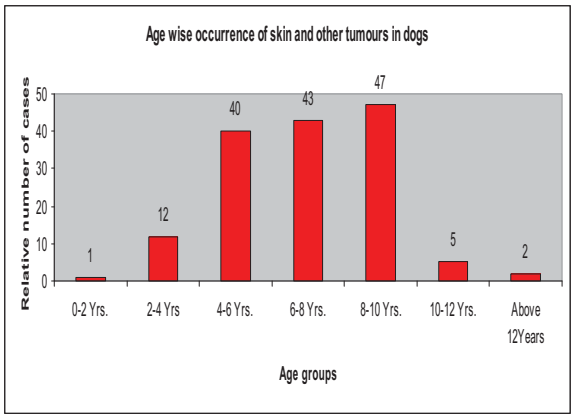
malignant melanoma 2.00%, transitional epithelial carcinoma 2.00%, liposarcoma 1.33% (Fig.6), myxosarcoma 1.33%, rhabdomyosarcoma 1.33%, Lymphosarcoma 1.33% and synovialsarcoma 0.67% (Fig.1). Tiwari (2002) reviewed the neoplasms in canine of Chattisgarh state over a period of 13 years (1988–2001), recording 236 cases of neoplasm as 20.70%, out of which the squamous cell carcinoma 14.83%, adeno carcinoma 9.32%, and the rarest were mast cell tumour 1.69%. Kelawala *et al.* (1992) reviewed the incidence of various neoplasms in canine by a clinical survey of 5977 dogs brought to Gujrat veterinary college Anand during 1987 – 1991 i.e. in 5 years that revealed 51 cases of various types of neoplasms, which was only 0.85%. The fibro sarcoma 17.64%, squamous cell carcinoma 15.68%, fibroma 15.68% and papilloma 11.6%, rests were rare. Singh *et al.* (1998) reviewed neoplasms of 60 clinical cases of canine for last 8 years at HPKV Palampur, which revealed 25% were confined to the bone, skin, and peri–anal areas. Nair *et al.* (1990) reported a unilateral sarcoma of parotid gland at the junction of neck and mandible below the base of left ear in a 7 ½ yrs. old dog, very unusual site. Sundarraj *et al.* (1993) highlighted mixed sweat gland neoplasm (adenoma) which is not common in dogs; located intradermally at the level of first lumbar vertebrae in a 11years old dog having a growth grossly hard, grayish white, circumscribed 4x2cm (measured by Vernier calipers). Ayyappan *et al.* (1994) reported a metastasis CTVT involving the superficial inguinal lymph node and skin (multiple soft growths on the skin).

The Sex wise distribution of Skin and Other Tumours cases (Graph-1) revealed that the occurrence of neoplasm was more 69.33%) in male animals than the females 30.67%.



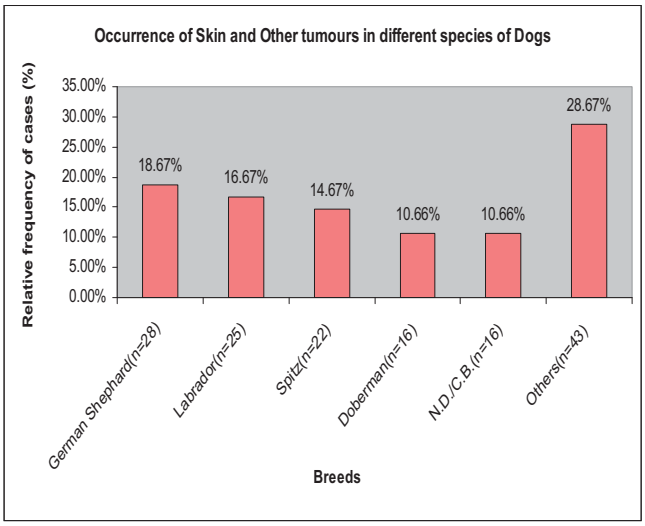
Graph - 1

The Age wise distribution of Skin and Other Tumours cases (Graph-2) revealed that the age of the affected animals varied from 2-12 years. The highest incidence has been recorded in the age group of 8-10 years 31.33%, followed by 6-8 years 28.67%, 4-6 years 26.67% and 2-4 years 8.00%. The lowest incidence was in the age group of 0-2 years 0.67% and followed by above 12 years of age 1.33% and 10-12 years 3.33% (Graph-3). Similarly reported by Er and Sutton (1989) who had observed that the prevalence of tumours increased with age, most occurring at greater than 6 years. An exception was the histocytoma, where 55 of the 80 cases were recorded in dogs under 3 years.



Graph - 2

The Breed wise distribution of Skin and Other Tumours cases (Graph-3) revealed that the higher incidence of skin and other organ tumours have been noticed in German shepherd 18.67% followed by Labrador 16.66%, Spitz 14.66, Doberman 10.66%, Crossbred/ Nondescript breed 10.66%, Great Dane 5.33%, Boxer 3.33% and Rest of other breeds 20.00%.



Graph - 3

Fig. 1.Synovial Sarcoma in Great Dane Dog

Fig.2. Lip fibroma on Lip of Great Dane Dog

Fig.3.Rahbdomyoma on thigh of GSD Dog

Fig. 4.Perianal Adenoma in Doberman Dog

Fig.5.Squamous cell carcinoma in thigh of C.B. Dog

Fig.6.Liposarcoma in Labrador Bitch

Fig.7.Myxoma on back in Labrador Bitch

Fig.8.Fibrosarcoma in lower mandible of Labrador Bitch

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