

PREVALENCE OF TRANSMISSIBLE VENEREAL TUMOR IN CANINES FROM NAGPUR CITY

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Transmissible venereal tumor (TVT), also known as infectious sarcoma, venereal granuloma, transmissible lymphosarcoma or Sticker tumor, is a most common benign reticuloendothelial tumor of the dog that mainly affects the external genitalia and occasionally the internal genitalia and can be seen in both male and female dogs. During April 2020 to March 2023, at Veterinary Clinical Complex, To know the prevalence percent of Transmissible venereal tumor in canines present study was conducted. During three years overall prevalence of venereal granuloma was reported at clinics in 496 dogs with 0.68 percent while, out of reported 2900 cases of animal reproduction in canines, Transmissible venereal tumor (TVT) prevalence was observed with 17.10 percent. There were 496 adult dogs found suffered from Transmissible venereal tumor with 136 (27.42 %) male and 360 (72.58 %) females.

Keywords: Canines, TVT, Transmissible venereal tumor prevalence, Venereal granuloma.

Transmissible venereal tumor (TVT) is one of the most uncontrolled tumors in dogs which spread through mating. Transmissible venereal tumor is a tumour, which has the highest percentage of incidence in canines and appears as cauliflower like growth on the external genitalia which is pedunculated, nodular, papillary or multilobulated tumour masses, which may sometimes show bleeding and serosanguineous discharge from preputial orifice in the male while in the female from genital canal (Panchkhande *et al.*, 2020). Tumour size ranges from millimeters to several centimeters with dark red to grayish pink coloration. The tumour is usually seen in young (2-5 years), sexually active dogs from an environment with high concentration of free roaming dogs with uncontrolled reproduction. Females are most susceptible than males. It has been described as a benign reticulo endothelial tumor that mainly affects the external genitalia and less frequently the internal genitalia (Tella *et al.*, 2004). It is a horizontally transmitted venereal round cell tumor diagnosed in dogs (Spugnini *et al.*, 2008). It is naturally occurring tumor transmitted from animal to animal during

copulation by viable tumor cells that mainly affect the external genitalia and occasionally the internal genitalia, although in some cases it can be found in extra genital sites as well (Das and Das, 2000).

There is meager information available regarding influence venereal granuloma in canine in different geographical locations of Nagpur district, Maharashtra. Therefore, the present study is aimed to provide data on influence of Transmissible venereal tumor in canines.

Materials and Methods

Data was collected from Veterinary Clinical Complex, Nagpur Veterinary College, Nagpur, with duration of April 2020 to March 2023, includes total 2900 dogs which were presented with various reproductive disorders. A total of 496 cases were reported for venereal granuloma. Out of which 136 were male and 360 were females all the animals were in between 2 to 8 years of age. For the present study data was collected for the period of three years during April 2020 to March 2023. The prevalence of venereal tumour was studied on the basis of age, sex, breed and body weight of canines

Results and Discussion

To study the prevalence percent of Transmissible venereal tumor in canines present study revealed overall prevalence of venereal granuloma was reported at clinics in 496 dogs with 0.68 percent while, out of reported 2900 cases of animal reproduction in canines, Transmissible venereal tumor (TVT) prevalence was observed with 17.10% .

Sex wise prevalence of venereal granuloma

There were 496 adult dogs found suffered from Transmissible venereal tumor with 136 (27.42 %) male and 360 (72.58 %) females. The present study revealed that, the influence venereal granuloma was observed more in female as compared with male dogs. because of indiscriminate sexual activity which are high in stray and nondescript dogs. If male is affected with venereal granuloma which

through coitus are transmitted in females and such recipient females later on acts as the donor. Similarly, Ganguly *et al.*, (2016) reported that female dogs are more affected with TVT then male because only one infected male often mates with numerous females. Whereas,

Age wise prevalence of venereal granuloma

Table 1 represents that, in age group of 2-3 years, overall venereal granuloma was most prevalent with 171 (34.47 %) dogs out of 496 dogs. While out of 360 female dogs, highest prevalence of venereal granuloma was also observed in young to adult middle-aged with 112 female dogs with 31.11 percent as well as during the same age group out of 136 males, 59 male with 43.38 % showed highest prevalence of venereal granuloma (Fig.1).

Table 1: Age wise prevalence of venereal granuloma in canines

Age	No of males (Percent %) N=136	No of females (Percent %) N=360	Total No of canines (Percent %) N=496
< 1	00	00	
1-2 years	45 (33.09 %)	47 (13.05 %)	92 (18.54 %)
2-3 years	59 (43.38 %)	112 (31.11 %)	171 (34.47 %)
3-4 years	18 (13.23 %)	72 (20.00 %)	90 (18.14 %)
4-5 years	02 (1.47 %)	58 (16.11 %)	60 (12.09 %)
5-6 years	03 (2.21 %)	50 (13.89 %)	53 (10.68 %)
6-7 years	02 (1.47 %)	04 (1.11 %)	06 (1.21 %)
7-8 years	07 (5.15 %)	12 (3.33 %)	19 (3.83 %)
> 8 years	00	05 (1.39 %)	05 (1.01 %)
Total	136	360	496

Similar findings are reported by Panchkhande *et al.*, 2019, who reported that, higher incidence of venereal granuloma was found in dogs aged between 4 to 7 years as 38.88 percent, followed by 2 to 4 years (27.77%), 8 years and above (22.22%) while, less than 2 years as 11.11 %.

Body weight wise prevalence of venereal granuloma

Body weight wise distribution of venereal granuloma values are depicted in Table 1. Overall highest prevalence of venereal

granuloma was recorded in 15 to 25 kg body weight in 211 dogs with 42.54 percent followed by 10 to 15 kg body weight 139 (28.02 %) dogs (Fig.2). Almost similar findings are submitted by Panchkhande *et al.*, (2019) with highest incidence of venereal granuloma as in 15 to 25 kg body weight (50%) followed by 8 to 15 kg body weight (27.77%) then 25 to 35 kg body weight (22.22%). The incidence and correlation of venereal granuloma with body weight could not be established and such literature regarding same could not be outlined.

Fig.1- Gender wise influence of age on incidence of venereal granuloma (N=496)

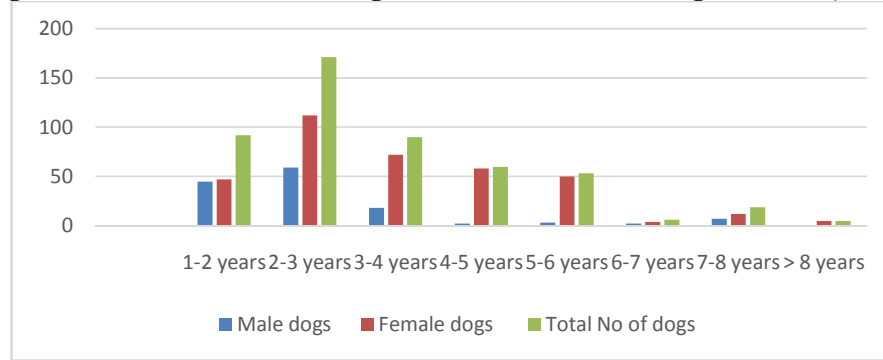
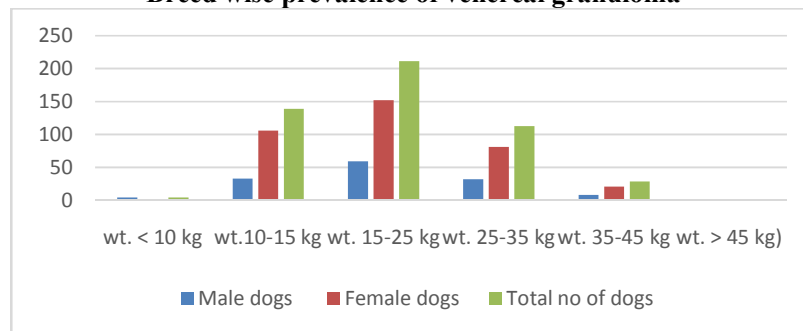


Table 2: Body weight wise prevalence of venereal granuloma in canines

Body Weight	No of males (Percent %) N=136	No of females (Percent %) N=360	Total No of canines (Percent %) N=496
weight < 10 kg	4 (2.94 %)	00	4 (0.81 %)
weight 10-15 kg	33 (24.26 %)	106 (29.44 %)	139 (28.02 %)
weight 15-25 kg	59 (43.38 %)	152 (42.22 %)	211 (42.54 %)
weight 25-35 kg	32 (23.53 %)	81 (22.50 %)	113 (22.78 %)
weight 35-45 kg	08 (5.89 %)	21 (5.83 %)	29 (5.85 %)
weight > 45 kg)	00	00	00
Total	136	360	496

**Fig.2- Gender wise influence of body weight on incidence of venereal granuloma (N=496)
Breed wise prevalence of venereal granuloma**



Breed wise distribution of venereal granuloma affected are presented in table 1. Irrespective of gender overall highest incidence of venereal granuloma was observed in 162 Nondescript dogs out of 496

with 32.66%, followed by Labrador 97 (16.56%), German shepherd 82 (16.53 %), Pomeranian 47 (9.47 %) while lowest prevalence was observed in 3 Lasa Apso as 0.60% and 4 Great dane with 0.81% (Fig.3).

Table 3 :Breed wise prevalence of venereal granuloma in canines

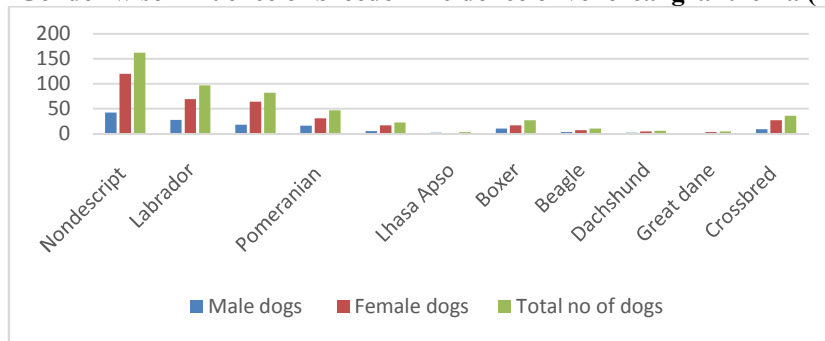
Breed	No of males (Percent %) N=136	No of females (Percent %) N=360	Total No of canines (Percent %) N=496
Nondescript	42 (30.88 %)	120 (33.33 %)	162 (32.66 %)
Labrador	28 (20.59 %)	69 (19.17 %)	97 (16.56 %)
German shepherd	18 (13.23 %)	64 (17.78 %)	82 (6.53 %)
Pomeranian	16 (11.76 %)	31 (8.61 %)	47 (9.47 %)
Golden Retriver	5 (3.68 %)	17 (4.72 %)	22 (4.43 %)

Lasa Apso	2 (1.47 %)	1 (0.28 %)	3 (0.60 %)
Boxer	10 (7.35 %)	17 (4.72 %)	27 (5.44 %)
Beagle	3 (2.20 %)	7 (1.94 %)	10 (0.20 %)
Dachshund	2 (1.47 %)	4 (1.11 %)	6 (1.21 %)
Greatdane	1 (0.73 %)	3 (0.83 %)	4 (0.81 %)
Crossbred	9 (6.61 %)	27 (7.5 %)	36 (7.26 %)

This affection was found commonly in nondescript breeds, particularly in free roami-

ng dogs. During oestrus period mating of dogs with affected bitches is factor for spreading of the disease.

Fig.3- Gender wise influence of breed on incidence of venereal granuloma (N=496)



It was presumed that well maintained dogs of recognized breed do not suffer with venereal granuloma as owners are aware about canine diseases. Similar statement was submitted Shiju *et al.*, (2016) who also observed the incidence of venereal tumour more in nondescript dogs (38.84 %). In the present study, the highest incidence of venereal granuloma was observed in nondescript which could be due to the fact that the population of non-descript dog is more and these dogs are not confined and are free roaming.

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