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Incidence of corneal affections in Shih Tzu dogs: A research study

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Abstract

Clinical cases presented to the Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram, over a period of 12 months from January 2025 to December 2025 related to ocular affections in Shih Tzu dogs were screened for the incidence of corneal disorders. Each case underwent a comprehensive clinical evaluation along with a detailed ophthalmic examination to arrive at a confirmative diagnosis of the Corneal affections. Out of 704 canine ophthalmic cases 160 (22.7%) involved ocular affections in Shih Tzu dogs, of which 116 (72.5%) were diagnosed with Corneal disorders. Out of 116 cases of various corneal affections, corneal ulcers were found to be higher followed by corneal pigmentation and corneal degeneration were observed. Within the category of corneal ulcers, superficial ulcers occurred most frequently. Regarding age, sex, and eye affected, Shih Tzu dogs aged 1-4 years, males and those with right eye involvement exhibited a higher incidence of corneal disorders.

Keywords: Shih tzu, corneal ulcer, corneal pigmentation and corneal degeneration.

Introduction

Ocular affections are commonly encountered across all animal species. Corneal disorders are frequently observed in clinical practice, primarily resulting from trauma, infection, or surgical interventions, and require prompt diagnosis and treatment to preserve vision and ocular comfort in dogs. Brachycephalic breeds such as the Shih Tzu are particularly predisposed to corneal diseases due to their prominent globes, shallow orbits, increased corneal exposure, tear film instability, and reduced corneal sensitivity, all of which elevate the risk of trauma and delay epithelial healing (Sebbag *et al.* 2023) [6]. Therefore, the present study aimed to determine the incidence of corneal affections based on type of condition, age, sex, and laterality of the affected eye.

Materials and Methods

The study was conducted to find out the occurrence of corneal affections with respect to affection wise, age, gender and affected eyes in Shih Tzu dogs presented to the Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram from January 2025 to December 2025. General clinical examination and detailed ophthalmic examination including neuroophthalmic examination, special diagnostic procedures like, Schirmer Tear Test (STT), Fluorescein test and Slit-lamp biomicroscopy. The incidence of corneal affections were recorded and analysed.

Results and Discussion

During the study period of January 2025 to December 2025, a total of 704 canine ophthalmic cases presented to the Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram. Among them, 22.7 per cent (160) ocular affections were recorded in Shih Tzu dogs, among which 72.5 per cent (116) exhibited corneal disorders. These observations are consistent with the findings of Kim *et al.* (2015) [3], who reported corneal diseases (28.5%) as the most prevalent condition in Shih Tzu dogs. Among the corneal affections documented, Corneal ulcers constituted the majority at 46.23 per cent (74 cases),

including superficial corneal ulcers 13.75 per cent (22), deep stromal ulcers 11.25 per cent (18), Spontaneous Chronic Corneal Epithelial Defects (SCCEDs) 9.37 per cent (15), perforated ulcers 5.62 per cent (9), descemetocoeles 4.37 per cent (7) and melting ulcers 1.87 per cent (3). These findings are in agreement with Sebbag *et al.* (2023) [6], who also identified Shih Tzu as the most commonly affected breed with corneal ulcerative disease (8.4%) in a large canine population from primary care clinics. Other conditions included corneal pigmentation 20 (12.5%), corneal degeneration 16 (10.00%), corneal dermoid 5 (3.12%), and corneal oedema 1 (0.62%). Variations in incidence rates between studies may be attributed to differences in geographical location and seasonal factors (Fig 1 -10) (Table 1).

Age-wise analysis of corneal disorders indicated that the highest occurrence was observed in Shih Tzu dogs aged 1–4 years, accounting for 42.5 per cent (68), followed by those less than 1 year of age at 20 per cent (32), dogs aged 5–8 years at 8.75 per cent (14), and those above 9 years at 1.25 per cent (2). These findings are in agreement with Mecvan *et al.* (2023) [4], but differ from the observations of Rajaei *et al.* (2024) [5], Gosling *et al.* (2013) [1], Wu *et al.* (2018) [7], and Hung *et al.* (2020) [2], who reported a higher prevalence in the 5–8 years age group. This higher incidence in younger dogs may be attributed to their more active and playful behavior, making them more susceptible to ocular trauma, along with relatively reduced corneal sensitivity (Table 2).

Gender-wise distribution revealed a higher incidence in male Shih Tzu dogs (49.38%, 79) compared to females (23.13%, 37), which is consistent with the findings of Sebbag *et al.* (2023) [6]. This variation may be attributed to the relatively larger palpebral fissure length in male dogs, predisposing them to increased exposure and susceptibility to corneal injury (Table 3).

Regarding the affected eye, the highest incidence was observed in the right eye (OD) at 32.5% (52), followed by the left eye (OS) at 25% (40) and both eyes (OU) at 15% (24 cases). These results are consistent with the reports of Gosling *et al.* (2013) [1] and Mecvan *et al.* (2023) [4]. In contrast, Rajaei *et al.* (2024) [5] reported a higher prevalence of involvement in the left eye (OS) compared to the right eye (OD) (Table 4).

Table 1: Affection wise incidence of corneal affections

Type of Corneal affection	Number	% of Incidence	% of Cases
Superficial corneal ulcer	22	13.75	18.97
Corneal pigmentation	20	12.5	17.24
Deep stromal ulcer	18	11.25	15.52
Corneal Degeneration	16	10	13.79
SCCED	15	9.37	12.93
Perforated corneal ulcer	9	5.62	07.76
Descemetocoele	7	4.37	06.03
Corneal dermoid	5	3.12	04.31
Melting corneal ulcer	3	1.87	02.59
Corneal edema	1	00.62	00.86
Total	116	72.5	100

Table 2: Age wise incidence of corneal affections (n =116)

Age (Years)	Number	% of Incidence	% of Cases
0 - 1	32	20	27.59
1- 4	68	42.5	58.62
5 - 8	14	8.75	12.07
Above 9	2	1.25	1.72
Total	116	72.5	100

Table 3: Gender wise incidence of corneal affections (n=116)

Gender	Number	% of Incidence	% of Cases
Female	37	49.37	68.10
Male	79	23.13	31.90
Total	116	72.5	100

Table 4: Eye wise incidence of corneal affections (n=116)

Eye affected	Number	% of incidence	% of cases
OD	52	32.5	44.8
OS	40	25	34.5
OU	24	15	20.7
Total	116	72.5	100



Fig 1: Superficial corneal ulcer (OS)



Fig 2: Indolent ulcer (OS)



Fig 3: Deep ulcer (OS)



Fig 4: Descemetocoele (OD)



Fig 5: Perforated ulcer (OS)



Fig 6: Melting ulcer (OD)



Fig 7: Corneal dermoid (OD)



Fig 8: Corneal degeneration (OD)



Fig 9: Corneal pigmentation (OS)



Fig 10: Corneal edema (OD)

Conclusion

Based on the findings of the present study, corneal affections were found to be highly prevalent in Shih Tzu dogs. Among these, corneal ulcers were the most common, followed by corneal pigmentation and corneal degeneration. Within the category of corneal ulcers, superficial ulcers occurred most frequently. Regarding age, sex, and eye affected, Shih Tzu dogs aged 1–4 years, males, and those with right eye involvement exhibited a higher incidence of corneal disorders.

Conflict of Interest

Not available

Financial Support

Not available

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