



International Journal of Veterinary Sciences and Animal Husbandry



ISSN: 2456-2912

NAAS Rating (2026): 4.61

VET 2026; 11(4): 54-61

© 2026 VET

www.veterinarypaper.com

Received: 20-02-2026

Accepted: 25-03-2026

Pooja Pharande

M.V.Sc. Scholar, Department of
Veterinary Surgery and Radiology,
Maharashtra Animal and Fishery
Sciences University, Maharashtra,
India

Farheen Fani

Associate Professor, Department of
Veterinary Surgery and Radiology,
Maharashtra Animal and Fishery
Sciences University, Maharashtra,
India

Dr. RV Raulkar

Associate Professor and Head,
Department of Veterinary Surgery
and Radiology, Maharashtra
Animal and Fishery Sciences
University, Maharashtra, India

MG Thorat

Former Professor and Head,
Department of Veterinary Surgery
and Radiology, Maharashtra
Animal and Fishery Sciences
University, Maharashtra, India

PS Tarate

M.V.Sc. Scholar, Department of
Veterinary Surgery and Radiology,
Maharashtra Animal and Fishery
Sciences University, Maharashtra,
India

Niharika Moon

M.V.Sc. Scholar, Department of
Veterinary Surgery and Radiology,
Maharashtra Animal and Fishery
Sciences University, Maharashtra,
India

AJ Choudhury

M.V.Sc. Scholar, Department of
Veterinary Surgery and Radiology,
Maharashtra Animal and Fishery
Sciences University, Maharashtra,
India

Corresponding Author:

Dr. RV Raulkar

Associate Professor and Head,
Department of Veterinary Surgery
and Radiology, Maharashtra
Animal and Fishery Sciences
University, Maharashtra, India

Diagnosis and Surgico-Therapeutic Management of Anterior Segmental Ocular Affections in Dog

**Pooja Pharande, Farheen Fani, RV Raulkar, MG Thorat, PS Tarate,
Niharika Moon and AJ Choudhury**

DOI: <https://www.doi.org/10.22271/veterinary.2026.v11.i4a.3167>

Abstract

The present clinical investigation entitled “Diagnosis and Surgico-Therapeutic Management of Anterior Segmental Ocular Affections in Dog” was conducted at the Veterinary Clinical Complex, PGIVAS, Akola, from February 2025 to January 2026. Out of 928 canine surgical cases registered during the study period, 36 dogs diagnosed with anterior segmental ocular disorders were selected for detailed evaluation. Affection-wise analysis revealed that cherry eye (19.51%) was the most frequently encountered condition, followed by corneal opacity (17.07%) and corneal ulcer (9.76%). Anatomically, corneal affections constituted the highest proportion (30.56%), indicating increased susceptibility of the cornea to trauma and inflammatory insults. Dogs below three years of age were most commonly affected (66.67%), suggesting age-related behavioral predisposition. Non-descript dogs showed the highest incidence (27.78%), followed by Labrador Retrievers (22.22%). A greater number of cases were recorded in males (58.33%) compared to females (41.67%). Unilateral involvement was predominant, particularly affecting the right eye (58.33%). Haematological evaluation of Hb, TEC, TLC, and PCV revealed non-significant variations and values within normal physiological limits during the study period, indicating absence of systemic involvement. Conjunctival congestion reduced progressively following appropriate surgico-therapeutic intervention. Neuro-ophthalmic assessment revealed diminished reflexes in severe conditions such as proptosis and glaucoma, whereas mild to moderate affections maintained functional visual pathways. Special diagnostic tests including schirmer tear test, fluorescein dye test, and applanation tonometry facilitated accurate diagnosis. Microbiological examination identified *Staphylococcus aureus* as the most common isolate in ulcerative cases with high sensitivity to moxifloxacin, gentamicin, and tobramycin. Early diagnosis and prompt treatment of ocular affections are essential for preserving vision. Even minor lesions, if neglected, may lead to serious complications such as corneal perforation, optic nerve damage, or irreversible blindness. Timely surgico-therapeutic intervention alleviates pain and inflammation, minimizes further complications, and helps maintain corneal clarity and visual function, thereby ensuring better ocular health and quality of life.

Keywords: Anterior segment, Canine ocular disorders, Surgico-therapeutic management, Veterinary ophthalmology

Introduction

Dogs were the earliest domesticated animals and have evolved from hunting companions to valued protectors and emotional companions of humans. Vision plays a crucial role in their interaction with the environment and with humans, influencing behaviour, navigation, social communication, and survival. Any impairment in vision can significantly affect a dog's behaviour and quality of life, often resulting in hesitation, collision with objects, and difficulty adapting to unfamiliar surroundings. Therefore, maintenance of ocular health is essential for the well-being of dogs. The eye is a highly specialized sensory organ often compared to a biological camera because of the coordinated functioning of its components that enable vision. Light enters through the pupil, is focused by the lens on to the retina, and the resulting impulses are transmitted to the brain through the optic nerve to produce visual perception. Even minor disturbances in ocular homeostasis caused by trauma, infections, metabolic disorders, or systemic diseases can adversely affect ocular function (Scountzou, 2003) ^[16].

Ocular disorders form an important component of small animal clinical practice, and studies on these conditions provide valuable information regarding their prevalence and distribution among different breeds, ages, and sexes. In dogs, the globe is particularly susceptible to trauma due to the incomplete bony orbit (Magrane, 1971) ^[10], and ocular injuries may accompany generalized trauma and remain unnoticed during initial clinical examination (Bachrach, 1992) ^[11]. Early diagnosis and appropriate management are therefore essential to prevent permanent vision loss.

Anterior segmental ocular affections involve structures such as the eyelids, third eyelid, conjunctiva, sclera, cornea, anterior chamber, and iris. These conditions may require medical or surgical intervention depending on severity. Disorders such as proptosis, eyelid tumours, eyelid lacerations, cherry eye, and deep corneal ulcers often require surgical correction, whereas conditions like conjunctivitis, corneal opacity, superficial ulcers, and keratitis are commonly managed medically. Accurate diagnosis based on careful ophthalmic examination is critical, as empirical treatment without proper diagnosis may lead to poor therapeutic outcomes (Mould, 1993) ^[12]. Inadequate diagnosis and treatment may also result in chronic ocular conditions that persist throughout the animal's life.

Advances in veterinary ophthalmology have improved the diagnosis and management of ocular disorders in dogs through the use of specialized diagnostic tests such as ophthalmoscopy, slit-lamp biomicroscopy, tonometry, ocular ultrasonography, Schirmer's tear test, fluorescein dye test, and neuro-ophthalmic reflex evaluations. These techniques enable accurate assessment of ocular health and facilitate appropriate medical and surgical interventions. In view of the increasing

importance of ocular health in companion animals and the need for effective diagnostic and therapeutic approaches, the present study entitled "Diagnosis and Surgico-Therapeutic Management of Anterior Segmental Ocular Affections in Dogs" was undertaken to evaluate various anterior segment ocular disorders in dogs using standard diagnostic procedures and to assess appropriate medical and surgical management strategies with the following objectives:

Objectives of the study

1. To determine the incidence of anterior segmental ocular affections in dogs.
2. To standardize the diagnostic and surgico-therapeutic approach for their effective management.

Materials and Methods

The study was conducted at the Department of Veterinary Surgery and Radiology and the Veterinary Clinical Complex (VCC), Post Graduate Institute of Veterinary and Animal Sciences (PGIVAS), Akola, from February 2025 to January 2026 after approval from the Institutional Ethical Committee for Veterinary Clinical Research. During this period, 928 canine cases were registered, of which 45 presented with ocular complaints. Following detailed clinical and ophthalmic examination, 36 dogs diagnosed with anterior segmental ocular affections were included in the study. Cases were categorized according to the anatomical structures involved periorcular region, eyelids, third eyelid, conjunctiva, cornea, and anterior chamber and were managed using appropriate medical or surgical protocols. Dogs were included irrespective of age, sex, breed, or body weight.

Sr. No.	Anatomical location	Affection	No. Of cases
1.	Periocular	Proptosis	3
		Periocular Allergic Dermatitis	1
		Ocular Lymphoma	1
2.	Eyelids	Entropion	3
		Blepharitis	1
		Eyelid Laceration	1
		Eyelid Growth	1
3.	Third Eyelid	Cherry Eye	8
4.	Cornea	Corneal Ulcer	4
		Corneal Opacity	7
5.	Conjunctiva	Purulent Conjunctivitis	1
		Chemosis	1
		Allergic Conjunctivitis	1
6.	Anterior Chamber	Hyphaema	1
		Hypopyon	1
		Glaucoma	1

Physiological assessment

Physiological parameters including rectal temperature (°F), conjunctival mucous membrane colour, and heart rate (beats/min) were recorded on the 0th day and subsequently on the 3rd and 7th day during the study period.

Anamnesis

Detailed case histories were recorded for all 36 dogs, including breed, age, sex, laterality of involvement, clinical signs, and any previous treatment undertaken. Information regarding onset and progression of ocular signs was obtained from the owners to aid in diagnosis and therapeutic planning.

Clinical evaluation

A. Ophthalmic Examination

A detailed ophthalmic examination was performed in all

selected cases to confirm the diagnosis. Complete history including signalment, duration of illness, clinical signs, and previous treatment was recorded. Examination was conducted in a well-illuminated room using direct and indirect ophthalmoscopy. Neuro-ophthalmic assessment was performed, and only cases without neurological deficits were included in the study.

B. Gross examination

Both eyes and periocular regions were examined by visual inspection and palpation. The eyelids, conjunctiva, adnexa, and globe were evaluated for vision status, signs of pain, irritation, swelling, discoloration, and ocular discharge. Vision was assessed behaviorally through obstacle avoidance and menace response. Ocular pain and irritation were identified by blepharospasm,

photophobia, lacrimation, and pawing at the eyes. Swelling was graded as mild, moderate, or severe. Corneal color and transparency were noted, and discharge was classified as serous, mucoid, purulent, or hemorrhagic.

C. Neuro-Ophthalmic Examination

Neuro-ophthalmic examination was performed to rule out neurological causes of visual impairment following standard procedures (Maggs, 2008) [9]. The menace reflex was assessed by making a sudden threatening hand gesture toward each eye separately without creating sound or air currents, and the blink response was recorded (Fig. 1). The pupillary light reflex (PLR) was evaluated using a focused beam of light from a pen torch to observe direct and consensual pupillary constriction. The palpebral reflex was tested by gently tapping the medial canthus and noting eyelid closure (Fig. 2). The dazzle (photic blink) reflex was examined by directing a bright light into the eye and observing the blink response. Functional vision was assessed using the maze/obstacle test, in which the animal's ability to navigate around obstacles was observed and recorded (Fig. 3). Responses in all tests were graded as positive, sluggish, or negative.

D. Special Diagnostic Tests

Special diagnostic tests were performed on the day of presentation and during follow-up as required. The schirmer tear test (STT) was performed by placing a sterile tear strip in the lower conjunctival fornix for one minute, and tear production was recorded in mm/min and interpreted as normal, mild, moderate, or severe keratoconjunctivitis sicca, while values above normal indicated epiphora (Fig. 5). The fluorescein dye test was conducted by applying a moistened fluorescein sodium strip to the conjunctiva to detect corneal epithelial defects; retention of dye indicated corneal ulceration (Fig. 6). The rose bengal test was performed by applying a pre-wetted Rose Bengal strip to assess devitalized epithelial cells and tear film instability, where reddish-pink staining indicated ocular surface damage. Tonometry was carried out using applanation tonometry (Tono-Pen) after topical anesthesia to measure intraocular pressure (IOP) for the diagnosis of conditions such as glaucoma.

E. Haematological and biochemical investigation

Haematological parameters including haemoglobin (Hb), total erythrocyte count (TEC), total leucocyte count (TLC), and packed cell volume (PCV) were evaluated on the 0th, 3rd, and 7th day to assess systemic involvement and therapeutic response. Serum biochemical analysis was performed by estimating mean blood glucose (mg/dl) levels at similar intervals to monitor metabolic status and systemic response during treatment.

F. Microbiological Examination and Antibiotic Sensitivity Test

Microbiological examination was conducted in selected cases to identify causative organisms and determine antimicrobial sensitivity. Conjunctival swabs were aseptically collected from the lower conjunctival sac and subjected to microbial isolation and culture sensitivity testing to guide appropriate antibiotics therapy (Fig. 4).

G. Anaesthesia and Preparation of Animal

All dogs were premedicated with atropine sulphate (0.02 mg/kg SC), followed by intramuscular administration of xylazine (1 mg/kg) and butorphanol (0.2 mg/kg) for sedation. An intravenous catheter was secured, and crystalloid fluids (normal saline or Ringer's lactate) were administered at 10 ml/kg/hour during surgery. Anaesthetic induction was achieved using midazolam (0.2 mg/kg IV) and propofol (4 mg/kg IV), followed by endotracheal intubation. Anaesthesia was maintained with propofol (4 mg/kg IV). Topical ocular analgesia was provided using 0.5% proparacaine hydrochloride. Anaesthetic depth and vital parameters were monitored at 5-minute intervals throughout the procedure. Dogs were positioned in lateral recumbency with the affected eye uppermost and the head supported. The periocular hair was clipped, the area aseptically prepared with povidone-iodine, and the conjunctival sac cleansed with diluted povidone-iodine followed by saline rinse. The site was then draped with a sterile ophthalmic drape to prevent contamination.

H. Surgico-therapeutic approach applied for various ocular affections:

Depending upon the type of affection suitable therapeutic and surgical protocol under general anesthesia will be followed.

Statistical Analysis

The data recorded at scheduled intervals (0th, 3rd, and 7th day) for 36 cases were analyzed using standard statistical procedures as described by Snedecor and Cochran (1994).

Results and Discussion

The study on anterior segmental ocular affections in dogs was conducted at the Veterinary Clinical Complex, PGIVAS, Akola, from February 2025 to January 2026. Of 928 canine surgical cases, 36 dogs with anterior segmental ocular disorders were selected for detailed evaluation. Cases underwent systematic ophthalmic examination and were managed medically or surgically as indicated. Incidence, clinical findings, and therapeutic outcomes were analyzed and compared with existing literature.

Anamnesis

Anterior segmental ocular affections were recorded in both sexes across multiple breeds, including Non-descript, Labrador Retriever, Rottweiler, Shih Tzu, Beagle, Pomeranian, Pug, Golden Retriever, and German Shepherd. Affected dogs ranged from 2 months to 12 years of age. Entropion, cherry eye, and corneal ulcers were more common in younger dogs, whereas corneal opacity, ocular lymphoma, and glaucoma predominated in older animals. Most cases were unilateral, with bilateral involvement observed in selected conditions.

Incidence

Out of 928 canine surgical cases presented during the study period, 36 (3.88%) were diagnosed with anterior segmental ocular affections. Cherry eye was the most common condition (19.51%), followed by corneal opacity (17.07%) and corneal ulcer (9.76%), while proptosis and entropion each accounted for 7.32% of cases. Corneal affections were most frequent (30.56%), followed by third eyelid (22.22%) and eyelid disorders (16.67%). Higher incidence was observed in dogs below three years (66.67%), in non-descript (27.78%) and

Labrador Retriever breeds (22.22%), and in males (58.33%) compared to females (41.67%). Most cases were unilateral (86.11%), with the right eye more commonly affected (58.33%) than the left.

Physiological assessment

Rectal temperature, heart rate, and conjunctival mucous membrane colour were recorded on the 0th, 3rd, and 7th day. Rectal temperature (101.0-102.6°F) and heart rate remained within normal physiological limits, with a slight reduction in heart rate during recovery. Conjunctival congestion observed at presentation in inflammatory conditions subsided by the 7th day following treatment, indicating that anterior segmental ocular affections are primarily localized disorders with minimal systemic involvement.

Neuro-Ophthalmic Examination

Neuro-ophthalmic examination showed absent reflexes and negative maze responses in proptosis cases indicating severe visual impairment, while entropion and cherry eye retained positive reflexes suggesting intact vision. Corneal ulcer and opacity showed variable responses depending on severity, whereas mild periocular conditions exhibited normal reflexes. Reduced responses were observed in ocular lymphoma and glaucoma indicating compromised vision. Schirmer Tear Test values in all dogs remained within the normal reference range (15-25 mm/min), ruling out tear deficiency (Morreale, 2003) [11]. Fluorescein dye test was positive in four cases confirming corneal ulceration, and applanation tonometry detected elevated intraocular pressure (35 mmHg) in one case confirming glaucoma and aiding therapeutic monitoring (Thompson-Hom and Gerding, 2012) [18].

Microbiological Examination and Antibiotic Sensitivity Test

Conjunctival swabs collected from five cases of corneal ulcer and purulent conjunctivitis prior to topical medication revealed bacterial growth in three cases. *Staphylococcus aureus* was the predominant isolate, followed by *Escherichia coli* and *Streptococcus* spp., which are commonly reported pathogens in canine corneal infections. Antimicrobial susceptibility testing showed high sensitivity to moxifloxacin, gentamicin, and tobramycin, with gentamicin demonstrating consistent efficacy against both staphylococcal and streptococcal isolates (Ollivier, 2003) [13]. Gentamicin showed consistent efficacy against both staphylococcal and streptococcal isolates, aligning with findings of Deepika *et al.* (2022) [2], (Fig. 7).

Haematological and biochemical investigation

Haematological parameters (Hb, TEC, TLC, and PCV) recorded on days 0th, 3rd and 7th remained within normal physiological limits with no significant variations, indicating minimal systemic involvement in anterior segmental ocular affections, similar to the findings of Aaditya (2021). Serum glucose levels were also within normal limits in most cases, except for transient hyperglycaemia observed in the glaucoma case, which normalized following therapy, suggesting that these ocular disorders are primarily localized and have little effect on systemic haematological or biochemical status, although glucose monitoring remains clinically relevant (Lee *et al.*, 2022) [8].

Clinical application of the surgico-therapeutic approaches employed for the management of various ocular affections in dog.

The present study demonstrated that appropriate surgico-therapeutic interventions can effectively restore ocular health and preserve vision in most anterior segmental ocular affections in dogs. Surgical correction proved particularly beneficial in structural disorders of the eyelids and adnexa. Cherry eye was successfully managed in the majority of cases using Morgan's conjunctival pocket technique, which allowed gland preservation and prevented postoperative keratoconjunctivitis sicca, while recurrent cases were effectively treated by gland excision (Gupta *et al.*, 2016) [6], (Fig. 8). Similarly, entropion was corrected using the modified Hotz-Celsus technique, resulting in complete restoration of eyelid conformation without recurrence or complications (Fossum, 2019) [3]. Traumatic ocular conditions required prompt surgical decision-making depending on globe viability. In proptosis cases, eyes with irreversible damage were treated by enucleation, whereas a viable globe was successfully repositioned with temporary tarsorrhaphy, emphasizing that early surgical intervention plays a critical role in determining prognosis and visual preservation (Kumar *et al.*, 2015) [7], (Fig. 9). Surgical management also proved effective in localized eyelid conditions such as eyelid laceration and eyelid growth, where blepharoplasty with primary suturing or excision restored eyelid integrity and function with uneventful healing (Gelatt, 2011) [4]. Corneal disorders were primarily managed through a combination of medical and supportive therapies. Superficial corneal ulcers responded well to topical antimicrobial and anti-inflammatory treatment, whereas deep ulcers required surgical support using a third eyelid flap with temporary tarsorrhaphy to promote corneal healing and prevent further damage (Maggs *et al.*, 2008) [9]. Corneal opacity was successfully managed using a sequential conservative protocol including topical antibiotics, NSAIDs, hypertonic saline, lubricants, and corticosteroids after epithelial healing, which resulted in gradual improvement in corneal transparency (Ramani *et al.*, 2013) [15]. Inflammatory and allergic ocular conditions were effectively treated with appropriate medical therapy. Periocular allergic dermatitis and allergic conjunctivitis responded favorably to topical antihistamines and lubricating tear substitutes, while purulent conjunctivitis showed complete recovery following topical antibiotic therapy based on antimicrobial sensitivity testing (Gerding *et al.*, 1988) [5]. Blepharitis associated with ectoparasitic infestation responded well to eyelid cleansing, topical medications, and ivermectin therapy, confirming the importance of addressing the underlying cause (Gelatt, 2011) [4]. Similarly, chemosis, being a superficial conjunctival condition, resolved successfully with topical antimicrobial therapy. Certain intraocular conditions required targeted medical management to control inflammation and maintain ocular function. Hyphema was managed conservatively with topical corticosteroids and atropine sulphate, resulting in gradual clearance of intraocular hemorrhage and preservation of vision (Tuntivanich, 2007) [19]. Hypopyon associated with anterior uveitis responded well to topical antibiotics, anti-inflammatory therapy, and cycloplegics, preventing further complications (Maggs *et al.*, 2008) [9]. In the case of glaucoma, elevated intraocular pressure was effectively controlled using a combination of systemic acetazolamide and topical timolol and dorzolamide, which reduced pain and improved corneal clarity (Plummer *et al.*, 2013) [14]. Advanced ocular pathology such as ocular lymphoma required definitive surgical intervention. In the present study, a case of advanced ocular lymphoma with globe autolysis was

successfully managed by transpalpebral enucleation with exenteration, and histopathological examination confirmed the diagnosis (Fig. 10). This highlights the importance of surgical removal in advanced neoplastic conditions where visual function is already compromised (Maggs *et al.*, 2008)^[9]. Diagnosis of ocular lymphoma is confirmed by histopathological examination, which reveals neoplastic lymphoid cell infiltration and tissue architecture distortion. Further confirmation is achieved using immunohistochemistry (IHC), where B-cell markers such as CD79a show strong cytoplasmic positivity, establishing the lymphoid cells' origin. The characteristic staining pattern helps differentiate B-cell lymphoma from other ocular neoplasms (Fig. 11 & 12). Overall, the findings of the present study indicate that early diagnosis, appropriate surgical correction, and targeted medical therapy are essential for the successful management of ocular affections in dogs. The combined surgico-therapeutic approach not only alleviated clinical signs but also ensured preservation of ocular function and favorable prognosis in the majority of cases.

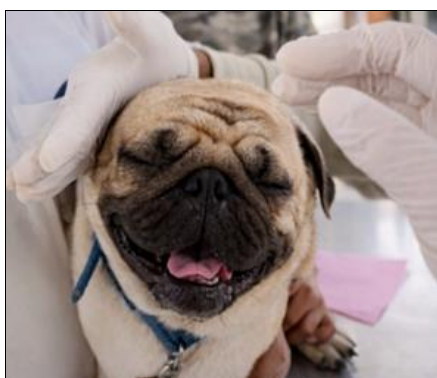


Fig 1: Menace Reflex



Fig 2: Palpebral Reflex



Fig 3: The Maze/ Obstacle Test



Fig 4: Conjunctival swab

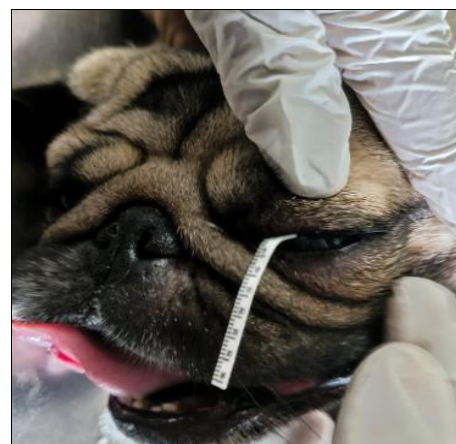


Fig 5: Schirmer Tear Test

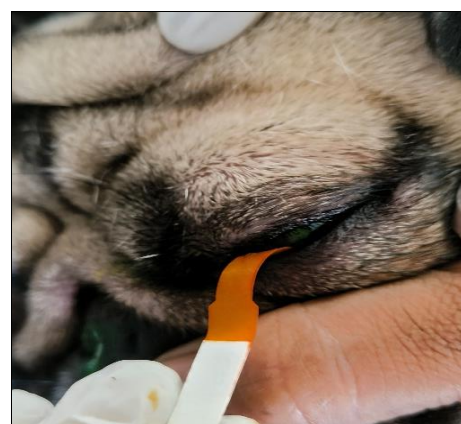
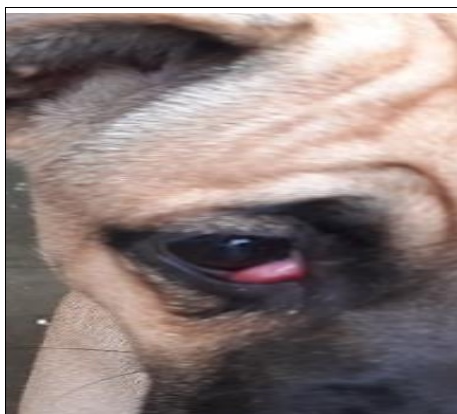


Fig. 6: Fluorescein Dye Test



Fig. 7: Antibiotic sensitivity test in dogs affected with corneal ulcers



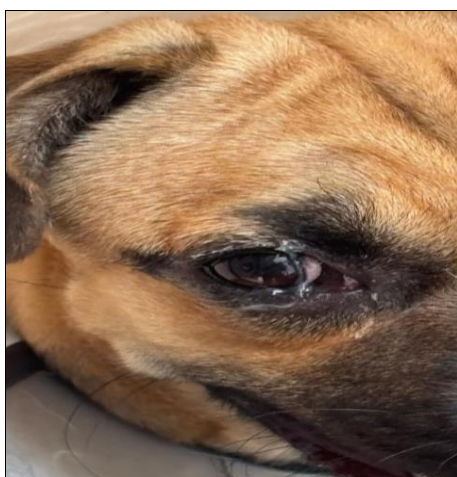
A) Cherry eye before surgical repositioning



B) Intraoperative view of prolapsed third eyelid gland



C) Morgan's pocket technique showing suturing of third eyelid



D) Post-operative healing after gland repositioning (14th day)

Fig. 8: Surgical management of Cherry eye in dog



A) Proptosis in Shih Tzu before surgical management



B) Post-operative appearance following surgical correction

Fig 9: Surgical management of Proptosis in Shih Tzu



A) Ocular lymphoma with chronic autolysis of the globe



B) Aseptically prepared surgical site



B) Ligation at the base of Tenon's capsule during globe extirpation'



D) Excised globe with associated orbital tissues



E) Intraoperative suturing of the orbital cavity



F) Postoperative closure with temporary tarsorrhaphy

Fig 10: Surgical management of Ocular lymphoma in dog by transpalpebral enucleation/exenteration

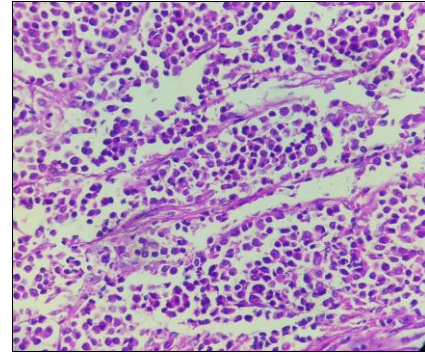


Fig 11: Histopathological confirmation of Ocular lymphoma (H&E staining)

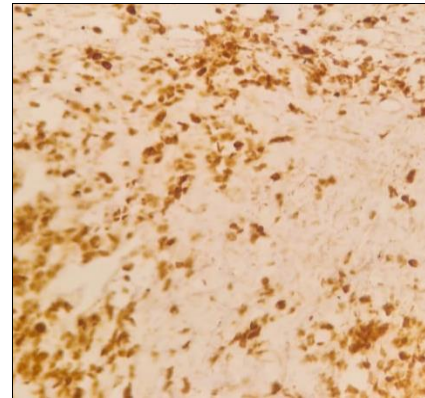


Fig 12: Immunohistochemistry of Ocular lymphoma

Conclusion

Anterior segmental ocular affections in dogs were predominantly represented by cherry eye, followed by corneal opacity and corneal ulcer, with higher incidence observed in dogs below three years of age, particularly males and non-descript breeds. Most cases were unilateral, commonly affecting the right eye. These disorders were largely localized and did not produce significant alterations in physiological, haematological, or serum biochemical parameters, indicating minimal systemic involvement. Comprehensive ophthalmic examination, including neuro-ophthalmic reflex assessment and special diagnostic tests such as Schirmer Tear Test, fluorescein dye test, tonometry, and microbiological evaluation, proved essential for accurate diagnosis and therapeutic planning.

Conservative medical management was effective in several inflammatory and superficial conditions when instituted early, whereas surgical intervention yielded favorable outcomes in disorders such as cherry eye (Morgan's pocket technique), entropion (modified Hotz-Celsus procedure), proptosis, eyelid defects, deep corneal ulcers, and advanced intraocular neoplasia. Overall, early diagnosis, timely medical or surgical intervention, and meticulous postoperative care were crucial in preserving vision and ensuring successful management of anterior segmental ocular affections in dogs.

Acknowledgement

The authors express their sincere gratitude to the faculty members of the Department of Veterinary Surgery and Radiology and to the Dean of the Post Graduate Institute of Veterinary and Animal Sciences (PGIVAS), Akola, for providing the necessary facilities and support to carry out this research work successfully.

Conflict of interest

The authors do not have any conflict of interest.

References

1. Bachrach A Jr. Ocular emergencies. In: Kaplan PM, editor. *Veterinary Emergency and Critical Care Medicine*. Vol 1. St. Louis: Mosby Publishing; 1992. p. 273-282.
2. Deepika A, *et al.* Antibiotic sensitivity and cultural pattern of bacteria in deep corneal ulcers in dogs. *Pharma Innovation Journal*. 2022;11:1178-1180.
3. Fossum TW. *Small Animal Surgery*. 5th ed. St. Louis: Elsevier; 2019. p. 279.
4. Gelatt KN, Brooks DE. Surgery of the cornea and sclera. In: *Veterinary Ophthalmic Surgery*. Philadelphia: Elsevier Saunders; 2011. p. 191-236.
5. Gerding PA, McLaughlin SA, Troop MW. Pathogenic bacteria and fungi associated with external ocular diseases in dogs: 131 cases (1981-1986). *J Am Vet Med Assoc*. 1988;193(2):242-244.
6. Gupta AK, *et al.* Management of cherry eye using different surgical techniques: A study of 10 dogs. *Intas Polivet*. 2016;17(2):411-414.
7. Kumar A, *et al.* Surgical management of traumatic proptosis in dogs: A report of five cases. *Indian J Vet Surg*. 2022;43(2):279-280.
8. Lee E, *et al.* Quantification of tear glucose levels and their correlation with blood glucose levels in dogs. *Vet Med Sci*. 2022;8(4):1816-1824.
9. Maggs DJ, Miller PE, Ofri R, editors. *Slatter's Fundamentals of Veterinary Ophthalmology*. 4th ed. St. Louis: Saunders Elsevier; 2008.
10. Magrane WG. *Canine Ophthalmology*. 2nd ed. Philadelphia: Lea and Febiger; 1971.
11. Morreale RJ. Corneal diagnostic procedures. *Clin Tech Small Anim Pract*. 2003;18(3):145-151.
12. Mould J. Conditions of the orbit and globe. In: Petersen-Jones SM, Crispin SM, editors. *Manual of Small Animal Ophthalmology*. 3rd ed. Gloucester: British Small Animal Veterinary Association; 1993. p. 45.
13. Ollivier FJ. Bacterial corneal diseases in dogs and cats. *Clin Tech Small Anim Pract*. 2003;18(3):193-198.
14. Plummer CE, *et al.* Intracutaneous tacking for replacement of prolapsed gland of the third eyelid in dogs. *Vet Ophthalmol*. 2008;11(4):228-233.
15. Ramani C, *et al.* Surgical bacteriology and grading of corneal ulcers in dogs: A retrospective study in 24 dogs. *Indian J Canine Pract*. 2013;5(1):136-138.
16. Scountzou E. Ophthalmic examination in dogs and cats. Part II. *J Hellenic Vet Med Soc*. 2003;54(4):329-334.
17. Singh AV. *Surgico-therapeutic management of ocular affections in dogs*. Nagpur: Maharashtra Animal and Fishery Sciences University; 2021.
18. Thompson-Hom AL, Gerding PA. Evaluation of intraocular pressure using rebound and applanation tonometers in dogs. *Am J Vet Res*. 2012;73(5):709-713.
19. Tuntivanich N. Ophthalmology snapshot. *Thai J Vet Med*. 2007;37(4):51-52.

How to Cite This Article

Pharande P, Fani F, Raulkar RV, Thorat MG, Tarate PS, Moon N, *et al.* Diagnosis and Surgico-Therapeutic Management of Anterior Segmental Ocular Affections in Dog. *International Journal of Veterinary Sciences and Animal Husbandry*. 2026; 11(4): 54-61.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.