

“Surgery in dogs, including the occurrence and treatment of inflammation of the third eyelid in dogs.”

PhD S.A. Haydarova, Masters, H.Ya.Qamchibekov M.O. Qahhorov

Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies

Abstract

This article investigates the prevalence of non-infectious surgical diseases in dogs in Samarkand city and evaluates the effectiveness of treatment methods for inflammation of the third eyelid. The research was conducted at the clinic of the Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies during 2022–2024. The results showed that mechanical injuries accounted for the largest proportion of surgical pathologies, while third eyelid inflammation was identified as one of the most common diseases. The clinical effectiveness of the Morgan pocket technique combined with комплекс therapy was assessed during the study. This method demonstrated high efficiency by preserving the anatomical and functional condition of the third eyelid gland, accelerating regression of inflammation, and reducing the risk of developing dry eye syndrome. In addition, proper postoperative care and the use of high-quality suture materials were found to be important in preventing relapses and complications. The obtained results confirm that the Morgan pocket technique is one of the most modern and physiologically appropriate methods for treating third eyelid inflammation in dogs.

Keywords: Dogs, third eyelid inflammation, Morgan pocket technique, veterinary ophthalmology, surgical treatment, conjunctiva, third eyelid gland, inflammation, complex therapy, dry eye syndrome

This work is Licensed under a Creative Commons Attribution 4.0 International License.

Relevance of the Topic. In veterinary practice, anti-inflammatory, antibacterial, anti-allergic, and regeneration-accelerating drugs are widely used. Nevertheless, despite the large number of proposed therapeutic

agents and treatment methods, the issue of effectively and completely eliminating dermatitis and inflammations of the third eyelid still remains a relevant problem. This condition is explained by the complex etiology of these diseases, their multifactorial development, and in some cases, their chronic course. Therefore, the development of more effective, safe, and comprehensive methods for the treatment of these pathologies in veterinary ophthalmology and dermatology is considered one of the important scientific and practical tasks of the present day. [2].

On the one hand, imported medicinal products used in the treatment of these diseases are expensive, and their widespread economic application is limited. On the other hand, the number of domestically produced drugs in the country is insufficient, and some of the existing preparations may have side effects and negative properties [3]. Immunocorrection plays an important role in the treatment of third eyelid inflammation in dogs, since the development of the disease is often directly related to the immune status of the organism. Normalization of the immune system activity is considered an important factor in increasing the effectiveness of treatment and preventing recurrence of the disease[6].

Research Results. During the study of the prevalence of non-infectious surgical diseases occurring among dogs in the city of Samarkand, the following results were recorded. According to observations conducted at the clinic under the Department of Veterinary Surgery and Obstetrics of the Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology, a total of 260 dogs with surgical pathologies were examined in 2022. Of these cases, 92 (35.4%) were associated with various injuries, 72 (27.7%) with inflammatory processes and tumors, 64 (24.6%) with inflammation of the third eyelid, and 32 (12.3%) with bone fractures.

Similar analyses were also carried out in 2024, during which a total of 245 diseased dogs were examined. Of these, 94 cases (38.4%) were related to injuries, 69 cases (28.2%) to inflammations and tumors, 58 cases (23.7%) to inflammation of the third eyelid, and 24 cases (9.7%) to bone fractures.

Year	Surgical Disease s (Total)	Injurie s	Inflammator y Processes and Tumors	Third Eyelid Inflammatio n	Bone Fracture s
------	-------------------------------	--------------	--	----------------------------------	-----------------------

2022 yil	260	92 (35,4%)	72 (27,7%)	64 (24,6%)	32 (12,3%)
2024 yil	245	94 (38,4%)	69 (28,2%)	58 (23,7%)	24 (9,7%)
TOTAL	505	186 (36,8%)	141 (27,9%)	122 (24,1%)	56 (11,2%)

In general, during these two years, 505 dogs suffering from surgical diseases were observed, of which 186 cases (36.8%) accounted for injuries, 141 cases (27.9%) for inflammatory processes and tumors, 122 cases (24.1%) for inflammation of the third eyelid, and 56 cases (11.2%) for bone fractures.

The analyses showed that the most common surgical pathologies in dogs include various degrees of mechanical injuries, closed traumas, inflammation of the third eyelid, as well as ear and eyelid diseases, stomatitis, and tumors. Improper animal care, deficiencies in feeding, animal fights, road traffic accidents, and certain hereditary factors play an important role in the development of these diseases.

Surgical treatment of third eyelid inflammation.

Scientific principles of the pocket method (Morgan technique). The main idea of this method is not to remove the gland, but to conceal it (reposition it) between the conjunctival layers of the third eyelid and restore its physiological position there.

1. Preoperative preparation: Suppression of inflammation: Local corticosteroid and antibiotic drops are prescribed 2–3 days before surgery in order to reduce swelling. Anesthesia: General anesthesia (sedation + muscle relaxants) and local application anesthesia to the eye area (for example, proparacaine).

2. Surgical Technique (Step-by-Step)

A. Conjunctival Incision:

On the inner (bulbar) surface of the third eyelid, two crescent-shaped parallel incisions are made along the contours of the protruding gland in its upper and lower parts. The incision involves only the mucous membrane, without affecting the cartilage tissue..

B. Pocket formation: With the help of a scalpel or surgical scissors, the tissues under the cut edges are slightly separated (prepared). This creates a space — a “pocket” — for the gland to fit in.

C. Placement of the gland: The hypertrophied gland is carefully pressed into the created pocket.

D. Suturing (Stitching): This stage is considered the most important. As suture material, absorbable (vicryl) threads of size 6-0 or 7-0 are used. The suture knots are brought out to the external surface of the conjunctiva (the side not touching the eyeball). This prevents damage to the cornea (keratitis). With a continuous suture, the two edges of the “pocket” are approximated, but small openings are left at the edges of the pocket to prevent blockage of the gland ducts (channels).

3. Advantages and complications of the pocket method: The gland remains in place and continues to produce tears. In the future, the risk of developing “dry eye” (DES) disease is reduced by 90%.

Aesthetics: After surgery, the external appearance of the eye returns to its natural state.

Possible complications and their management:

- **Recurrence:** If the sutures are loose or the dog rubs its eye, the gland may prolapse again. To prevent this, a surgical collar is mandatory.
- **Cyst formation:** If the pocket is stitched too tightly, glandular fluid may accumulate. Therefore, it is recommended to leave space at the edges for drainage.

The effectiveness of treatment methods used in third eyelid inflammation was evaluated in control and experimental groups at 5-day intervals through clinical and ophthalmological indicators. During observations, body temperature, heart rate, and respiratory rate were studied along with conjunctival hyperemia, swelling, discharge, blepharospasm, and photophobia.

In the first 1–5 days of treatment, in the control group, swelling of the third eyelid, conjunctival hyperemia, serous-mucous discharge, and sensitivity to light persisted. Against the background of conservative treatment, regression of inflammation proceeded slowly. In the experimental group, however, due to surgical intervention performed according to the Morgan method and complex therapy, clinical signs

decreased rapidly, and the anatomical condition of the third eyelid began to recover.

During days 6–10, in the control group, some animals retained thickening of the third eyelid, mild hyperemia, and epiphora, while in the experimental group the anatomical and functional condition of the eye almost completely normalized. In the 11–15 day observations, some residual changes were recorded in the control group, whereas in all animals of the experimental group complete clinical recovery was observed.

The results showed that although conservative treatment was to some extent effective in reducing inflammation, it did not ensure complete anatomical restoration. Surgical intervention based on the Morgan method combined with complex therapy demonstrated high effectiveness by rapidly restoring the anatomical condition of the third eyelid gland, eliminating the inflammatory process in a short time, and preventing the development of complications.

Conclusions:

1. In summary, the analysis of non-infectious surgical diseases among dogs in Samarkand city during 2022–2024 showed that various mechanical injuries accounted for the largest share. Among 505 diseased dogs observed over two years, 36.8% had injuries, 27.9% had inflammatory processes and tumors, 24.1% had third eyelid inflammation, and 11.2% had bone fractures. These indicators show that improper care of dogs, deficiencies in feeding, traffic accidents, and mutual fighting are among the main causes of surgical pathologies.

2. During the study, it was found that the Morgan pocket method used in the treatment of third eyelid inflammation is highly effective. In this method, the main goal is not to remove the gland but to place it into a conjunctival pocket while preserving its anatomical and physiological condition. As a result of the operation, the function of the lacrimal gland is preserved, the risk of developing “dry eye” syndrome is sharply reduced, and the natural appearance of the eye is restored.

3. Proper performance of the operation, use of quality suture materials, and strict adherence to postoperative care rules are important in preventing recurrence and other complications. In general, the Morgan method is considered one of the most modern, physiological, and practically optimal surgical techniques for treating prolapse of the third eyelid gland.

REFERENCES LIST

1. Авакьянц Б.М. Лекарственные растения в ветеринарной медицине. - М.: Аквариум ЛТД, 2001.
2. Акопов И.Э. Важнейшие отечественные лекарственные растения и их применение: Справочник. Томск: Медицина, 1990. - 444 с.
3. Белов А.Д., Плахотин М.В., Башкиров Б.А. и др. 4 Общая ветеринарная хирургия. М., Агропромиздат, 1990.
4. Бициев Т.Т. Комплексная терапия случайных инфицированных ран у животных. Автор. дисс. на соискание учёной степени кандидата ветеринарных наук. Санкт-Петербург – 2012
5. Гинзбург А.Г. Организация и планирование ветеринарного дела. – М.: Аспект–Пресс, 2005. – 492 с.
6. Гордиенко, Л.Н. Этиологическая структура дерматитов у мелких домашних животных в условиях Сибири / Гордиенко Л.Н. // Материалы 8 международного конгресса по проблемам ветеринарной медицины мелких домашних животных 6-8 апреля 2000г. М., 2000. - С. 86-87.
7. Карпецкая, Н.Л. Эрозивно-язвенные поражения кожи у собак / Н.Л. Карпецкая //Ветеринарный консультант. 2003. - № 18. - С. 18-21