

SURGICAL MANAGEMENT OF CHERRY EYE IN DOGS: COMPARISON OF TWO TECHNIQUES

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Received: 21.07.2022; Accepted: 19.10.2022

SUMMARY

Cherry eye is prolapse of third eyelid gland also known as nictitans gland prolapse disease, is an important ophthalmic condition that should be treated as soon as possible in dogs. The study was conducted on ten dogs with cherry eye. Dogs were randomly divided into two groups (n=5 each). In group I, the condition was managed by surgical excision of gland while by Morgan's pocket technique in group II. In conclusion, the Morgan's pocket technique for management of cherry eye was found better than surgical excision.

Keywords: Third eyelid gland, Cherry eye, Dog, Pocket technique

How to cite: Poonia, A., Saharan, S., Kumar, A., Sachin, Tiwari, D.K. and Arora, N. (2023). Surgical management of cherry eye in dogs: Comparison of two techniques. *The Haryana Veterinarian* 62(SI): 95-96.

Prolapse of the third eyelid gland from the medial canthus of the eye is known as cherry eye which is characterized by glandular expression, hyperaemia and increased gland volume (Gupta *et al.*, 2016; White and Brennan, 2018). It is also called as glandular hyperplasia, hypertrophy, nictitating gland adenoma (Mitchel, 2012). Protrusion or prolapse of the gland is seen in puppies or young dogs usually less than one year of age but can occur in any age group. It may be unilateral or bilateral (Hendrix, 2007). It is due to genetic predisposition and poor development of connective tissue between the base of the gland and periorbital tissue (Edelmann *et al.*, 2013). The condition is commonly seen in Cocker Spaniel, Boston terrier, Bulldog, Pekingese, Neapolitan Mastiff, Beagle, Cane Corso, Lhasa Apso, Shih-Tzu, and Basset hound (Rais *et al.*, 2015). A number of surgical techniques are available for treatment of cherry eye such as excising or replacing the prolapsed gland. It can be repositioned by pocket technique (Morgan *et al.*, 1993), anchoring technique (Kaswan and Martin, 1985) and other modified techniques. The aim of the present study was to evaluate and compare surgical excision and Morgan's pocket technique for management of cherry eye in dogs.

The present study was conducted on ten dogs suffering from cherry eye and brought to the Department of Veterinary Clinical Complex, College of Veterinary Sciences, Lala Lajpat Rai University of Veterinary and Animal Sciences, Hisar. All the animals were randomly divided into two groups comprising of five in each group. In group I, surgical excision of the prolapsed mass was done, while Morgan's pocket technique was performed in group II. All the animals were premedicated and sedated with administration of atropine @ 0.04 mg/kg IM and xylazine HCl @ 1 mg/kg IM. Induction was achieved with propofol @ 4 mg/kg IV till effect and maintenance of anaesthesia with Isoflurane @ 1-2 % with oxygen with flow rate of 50 ml/kg

in both the groups. For the surgical procedure, the sternal recumbency (in bilateral cherry eye) or lateral recumbency position with the side to be intervened above (in unilateral cherry eye) was preferred. Povidone-iodine (10%) solution was applied to periocular skin. Corneal and conjunctival surfaces were cleaned and irrigated with saline. The area around the eye was covered with a disposable sterile surgical drape and an eye speculum was placed to open the eyelids. In group I, the mass was completely exteriorized by applying traction to third eye lid and resection of the gland was performed with the help of bipolar electrocautery (Fig. 1a-c).

In group II, the third eye lid was pulled out to provide better surgical access to the prolapsed gland. Two slightly curved incisions were made on the bulbar surface of the third eyelid, on both (anterior and posterior) sides of the prolapsed gland as described in the Morgan's pocket technique. After the gland was pushed into its anatomical position, the reposition was fixed by simple continuous suture with the starting and ending notes on the outer surface of the third eye lid and 1-2 mm from the gland. Polyglycolic acid 5/0 was used for suturing (Fig. 2 a-d). Post-operatively, Inj.Ceftriaxone with Tazobactam (Intacef Tazo) @ 20 mg/kg IM BD and Inj.Meloxicam @ 0.2 mg/kg IM OD was given for five consecutive days in both the groups. Owner was advised to instil eye drops ciprofloxacin thrice daily for a week.

Out of ten dogs, three were females and seven were males. Cherry eye was more common in male dogs and considered more susceptible (Dehghan *et al.*, 2012). However, some researchers have not found sex predisposition (Morgan *et al.*, 1993; Premont *et al.*, 2010). Average age of dogs in group I and II was 11 and 9 months, respectively. Morgan *et al.* (1993) and Dehghan *et al.* (2012) also reported that occurrence of cherry eye in less than one-year-old dogs. Bilateral cherry eye was present only in two dogs. In group I, breeds affected were American Bully (n=2), Pakistani Bully (n=1), Mongrel (n=1),

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Fig. 1. Surgical excision Technique in dog (Group-I). Unilateral protrusion of third eyelid gland (A). Resected third eyelid gland (B). After resection of third eyelid gland (C).

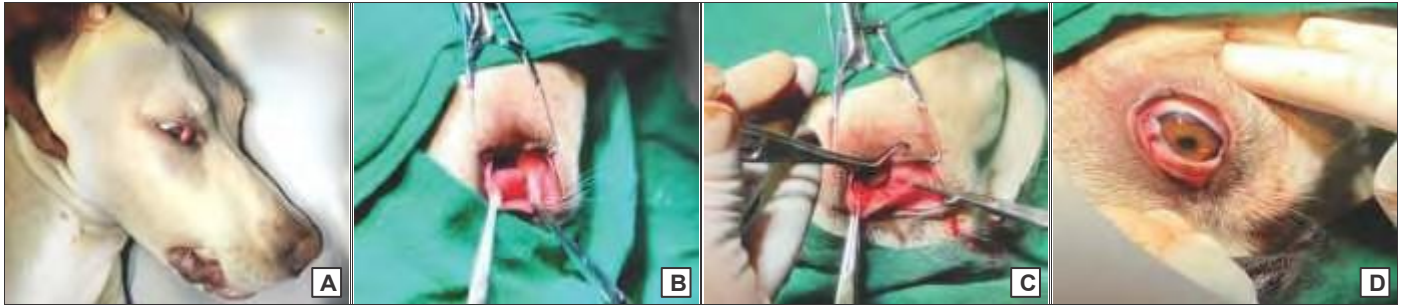


Fig. 2. Morgan's pocket technique in dog (Group-II). Unilateral protrusion of third eyelid gland (A). Exposed third eyelid gland (B). Repositioning of third eyelid gland by pocket technique (C). After replacement of third eyelid gland (D).

German shepherd (n=1) whereas Pakistani Bully (n=1), Beagle (n=2), German shepherd (n=1), Saint Bernard (n=1) were affected in group II. Out of five dogs, dry eye condition was observed in one dog at third month of follow up in group I and Schirmer test reading was found to be less than 5 mm/minute whereas it was 16 mm/minute pre-operatively. Excision of the nictitans gland may lead to kerato-conjunctivitis sicca (KCS) several years after excision (Miller, 2008). In group I, there was immediate post-operative cosmetic appearance as also reported by Saito *et al.* (2001). In group II, a single layer of the simple continuous suture with 5-0 thickness absorbable suture material was found appropriate. Although in different studies using Morgan's pocket technique, single-layer or 2-layer sutures were used to fix the gland reposition and various sutures of 3-0 to 7-0 thickness were used (White and Brennan, 2018). In present study, no reoccurrence was observed in dogs managed by pocket techniques. The overall failure rate was stated as 3% for Morgan's pocket procedure (White and Brennan, 2018).

CONCLUSION

Thus, it is concluded that surgical excision of the third eyelid gland is very easy and less time consuming but sometimes lead to development of kerato-conjunctivitis sicca in dogs. However, Morgan's pocket technique is found to be better technique than surgical excision in dogs due to high success and less complications.

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