

Morgan's pocket technique for the surgical management of cherry eye in dogs: A report of 14 cases

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ABSTRACT

The study was conducted to evaluate the efficacy of the pocket technique for the treatment of prolapsed third eyelid gland in dogs. In 14 cases of protruded third eyelid gland, Morgan's pocket technique was used. Duration of protrusion ranged from 7 days to 6 months. The affected dogs were of 6 months to 2 years. In four dogs the cherry eye was bilateral. Nine dogs were male and 5 were female. Eighteen protruded third eyelid glands were surgically treated with success in 15 eyes. Pocket technique was successfully used for repositioning of prolapsed gland of the third eyelid in dogs.

Key words: Cherry eye, Dog, Morgan's pocket technique.

Cherry eye is defined as protrusion of the gland of the third eyelid, and has been reported in dogs for over past 30 years (Morgan *et al.*, 1993). The prolapse of the gland occur secondary to inflammation and weakness in the connective tissue attaching the gland to its normal position; posterior and ventral to the nictitans, allowing the gland to migrate dorsally and flip up to protrude above the leading margin of the membrane (Dugan *et al.*, 1992). Many techniques have been used for the treatment of this condition (Moore *et al.*, 1996). Although the etiology of cherry eye is unknown, a genetic predisposition is suspected in many dogs because of the increased prevalence in certain breeds (Mazzucchelli *et al.*, 2012). Beagle, American Cocker spaniel, Boston terrier, Poodle and most of the brachycephalic breeds are prone to develop cherry eye (Dugan *et al.*, 1992). Clinically animal experience the signs like epiphora, conjunctivitis and sudden development of a red mass at the medial canthus (Martin, 2009). Total gland resection of the gland predisposes a dog to develop keratoconjunctivitis sicca (KCS) later in its life. To avoid KCS, replacement of the gland with Morgan's pocket technique rather than excision is preferred (Dehghan *et al.*, 2012). The present study used Morgan's pocket technique for treating prolapse of the third eyelid gland in dogs.

Fourteen dogs presented with protruded third eyelid (Fig.1) to the Referral Veterinary Polyclinic, Indian Veterinary Research Institute, Izatnagar were treated. All the animals were subjected to thorough anamnesis, clinical examination and assessment of the status of tear production. History pertaining to breed, age, sex, affected eyes, duration of prolapse, history of previous surgery were also collected.

Pre-operatively, Ciprofloxacin and Gentamicin eye drops, 1-2 drops, four times a day were instilled topically in addition to Prednisolone eye drops, 1-2 drops BID, started 3 days prior to surgery. All the surgeries were performed under general anesthesia and the animals were premedicated with atropine sulfate 0.04 mg/kg b.wt. SC, followed by diazepam and pentazocine 0.5 mg/kg and 0.03 mg/kg b.wt. IV, respectively five min latter. Anaesthesia was induced and maintained with 5% thiopentone sodium 12 mg/kg b. wt. IV. Ceftriaxone 20 mg/kg b.wt. IV was administered preoperatively. Animals were kept in lateral position during operation with affected eye facing upward. Morgan's pocket technique (Fig. 2) was performed for replacement of the prolapsed gland of the third eyelid in 18 eyes (14 dogs) as described by Morgan *et al.* (1993). The prolapsed gland was held with a stay suture and two parallel incisions were made on inner and outer side of the gland by using B.P. blade No.11. Undermining of the conjunctival edges was done, gland was pushed into the gap and edges were closed with 5/0 Vicryl (polyglactin 910), using a simple continuous suture pattern. Care was taken that the knot was tied on outer surface. The same procedure was repeated on the other eye where it was bilateral. Post-operative treatment included Ciprofloxacin and Gentamicin eye drops, 1-2 drops instilled four times a day for 7 days and flurbiprofen eye drops, 1-2 drops instilled three times a day topically for 4 days. To avoid self-mutilation, Elizabethan collar was advised for three weeks. All the dogs were monitored for KCS, any type of discharge, corneal vascularization or pigmentation and for the development of ulcer for at least one month postoperatively and thereafter on telephone for 3 months.

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Fig 1: Unilateral prolapse of the third eyelid gland in a Saint Bernard dog before and one month post-surgery

Fourteen canine cases which included Neapolitan Mastiff (4), Beagle (3), Greatdane (3), Saint bernard (2), Cocker spaniel dog (1) and Mixed breed (1) were operated. In four cases, cherry eye was bilateral. Nine animals were male and 5 were female. The affected animals were of 6 months to 2 years. Involvement of left eye was noticed in 6 out of 10 cases with unilateral gland protrusion. The duration of prolapse until the time of presentation for treatment ranged from 7 days to 6 months. Surgery was successful in 15 out of 18 eyes operated. Development of superficial corneal ulcer was noticed in all the 3 unsuccessful eyes that showed recurrence. Second attempt for repositioning also went unsuccessful in these three eyes. Later on resection of the prolapsed gland was performed in them. Epiphora and mucopurulent discharge was not observed in any case.

The protrusion of third eyelid generally happens because of inflammation and resulting irritation that deteriorate the cosmetic appearance of animal. The affected gland should be replaced because removal of it lowers tear values by 15-26% in cats and up to 40% in dogs. The Morgan's pocket technique of surgical repositioning is simple to perform and is having very high success rate (Dugan *et al.*, 1992). The only side effect, that is the reduced mobility of the third eyelid have been encountered with the pocket technique in few cases (Plummer *et al.*, 2008). Recurrence of the prolapsed gland observed in three eyes in the present study was probably because of suture breaks. Superficial corneal ulcers were also recorded in these 3 unsuccessful cases with history of prolapse for longer durations (>2 months). The use of



Fig 2: Intraoperative pictures of the pocket technique: A) Prolapsed gland. B) Exteriorizing the prolapsed third eyelid gland with forceps. C) Repositioning of the gland and application of a single layer simple continuous suture

5/0 Vicryl sutures (polyglactin 910) induced less post surgical inflammation with excellent results in 15 eyes. The affected animals were of 6 months to 2 year old age in this study corroborated the results of other studies, which suggested that prolapse of the third eyelid gland is most common in dogs <2 years old (Peiffer and Harling, 2003).

The present study re-establishes that Morgan's pocket technique for the repositioning of the prolapsed gland of the third eyelid is reliable.

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