

STADES METHOD FOR SURGICAL CORRECTION OF UPPER EYELID TRICHIASIS-ENTROPION: RESULTS AND FOLLOW-UP IN 21 CASES

MÉTODO DE STADES PARA A CORREÇÃO DA TRIQUIÁSE-ENTRÓPIO DA PÁLPEBRA SUPERIOR: RESULTADOS E ACOMPANHAMENTO DE 21 CASOS

José Luiz Laus¹ Felipe Antônio Mendes Vicenti² Aline Adriana Bolzan²
Paula Diniz Galera² Rodrigo Cezar Sanches³

SUMMARY

Trichiasis is a condition in which the cilia and facial hairs grow toward the cornea or the conjunctiva. The hairs arising from normal sites are pointed at an abnormal direction. This condition may be caused by prominent nasal folds, entropion, blepharospasm, slipped facial mask and dermoids. The upper eyelid trichiasis-entropion with lower eyelid entropion-ectropion frequently occurs in older English Cocker Spaniels. The ocular signs often are epiphora, blepharospasm, conjunctivitis, keratitis and corneal ulceration. Treatment depends on the severity of the condition and must eliminate the ocular contact by misdirected cilia that irritate the eyeball. This report presents a retrospective study of 21 patients with bilateral diffuse trichiasis (15 English Cocker Spaniels; 2 Basset hounds; 1 Bloodhound; 1 Fila Brasileiro and 2 mongrel dogs). The procedure described by Stades was employed in all cases. Postoperatively, topical chloramphenicol ointment (qid) was applied in the conjunctival sac and on the open wound for 2 weeks. Sutures were removed 10 days after surgery. Correction of positioning of the upper eyelid was successful and its apposition to cornea was normal. In most of the cases the reepithelialization was complete one month after surgery. No signs of recurrence were found and there appeared to be no loss of normal function of the eyelid in the 21 dogs available for follow-up examination in a maximum period of 36 months.

Key words: trichiasis, entropion, surgery, Stades.

RESUMO

Triquiase é a condição na qual os cílios e os cabelos faciais crescem em direção à córnea ou conjuntiva. Os pêlos que surgem de locais normais estão apontados em uma direção

anormal. Essa condição pode ser causada por dobras nasais proeminentes, entrópio, blefarospasmo, pele facial redundante e dennóides. A triquiase-entrópio da pálpebra superior associada ao entrópio-ectrópio da pálpebra inferior, frequentemente, ocorre em English Cocker Spaniels idosos. Os sinais oculares são frequentemente epifora, blefarospasmo, conjuntivite, ceratite e ulceração corneana. O tratamento depende da severidade da condição e deve eliminar o contato dos cílios com o globo ocular. Este trabalho apresenta um estudo retrospectivo de 21 pacientes com triquiase difusa bilateral (15 English Cocker Spaniels; 2 Basset hounds; 1 Bloodhound; 1 Fila Brasileiro e 2 cães sem raça definida). Empregou-se o procedimento descrito por Stades em todos os casos. No pós-operatório, aplicou-se pomada à base de cloranfenicol (qid) no saco conjuntival e na ferida aberta durante duas semanas. Removeram-se as suturas 10 dias após a cirurgia. Obteve-se êxito na correção do posicionamento da pálpebra superior e observou-se sua justaposição normal em relação à córnea. Ocorreu reepitelização completa da ferida um mês após a cirurgia. Não houve sinais de recidiva ou perda da função da pálpebra nos 21 cães avaliados por 36 meses.

Palavras-chave: triquiase, entrópio, cirurgia, Stades.

INTRODUCTION

The outer surface of the upper eyelid margins has two to four rows of eyelashes directed away from the cornea (SAMUELSON, 1991; SLATTER, 1990; PETERSEN-JONES, 1993). Cilia usually are present on the medial portion and extend across to the lateral canthus (SAMUELSON, 1991).

¹Associate Professor, DVM PhD., Ophthalmology Section, Veterinary College, São Paulo State University, Rodovia Carlos Tonanni, km 5, 14870-000, Jaboticabal, SP, Brazil. E-mail: jllaus@fcav.unesp.br. Author to correspondence.

²Graduate Students, Ophthalmology Section, Veterinary College, São Paulo State University.

³Undergraduate Student, Ophthalmology Section, Veterinary College, São Paulo State University.

The eyelid margins are hairless and often pigmented (PETERSEN-JONES, 1993). The lower eyelid has no cilia in the majority of the domestic species (SAMUELSON, 1991; SLATTER, 1990; PETERSEN-JONES, 1993).

Trichiasis is a condition in which the cilia and facial hair contacts the cornea or the conjunctiva. The hairs arising from normal sites are pointed at an abnormal direction. This condition may be caused by prominent nasal folds, entropion, blepharospasm, slipped facial mask and dermoids. The upper eyelid trichiasis-entropion with lower eyelid entropion-ectropion frequently occurs in older English Cocker Spaniels (PETERSEN-JONES, 1993). The ocular signs often are epiphora, blepharospasm, conjunctivitis, keratitis and corneal ulceration (GELATT, 1991; SLATTER, 1990; PETERSEN-JONES, 1993).

Treatment depends on the severity of the condition and must eliminate the ocular contact by misdirected cilia that irritate the eyeball (GELATT, 1991; SLATTER, 1990; PETERSEN-JONES, 1993), including correction of the primary problem, resection of nasal folds, cryoepilation and other methods for removal of the eyelashes (GELATT, 1991; SLATTER, 1990; PETERSEN-JONES, 1993). Some methods of trichiasis repair have disadvantages of complexity, time consumption, less predictable results and recurrences. Lack of optimum surgical correction resulted in development of an enforced secondary granulation method (STADES, 1987). This report presents a retrospective study of 21 patients with bilateral diffuse trichiasis treated with Stades method.

MATERIAL AND METHODS

The patients were referred to the Ophthalmology Section of Veterinary College of São Paulo State University - UNESP, Jaboticabal - SP / Brazil, with a history of lacrimation, ocular irritation and discharge. The patients consisted of 15 English Cocker Spaniels, 2 Basset Hounds, 1 Bloodhound, 1 Fila Brasileiro and 2 mongrel dogs (table 1). Ophthalmic examination revealed epiphora, purulent discharge, blepharospasm, photophobia, conjunctivitis and occasionally corneal ulceration and edema.

The procedure described by STADES (1987) was employed on all cases (figures 1, 2, 3 and 4). This method is used for surgical correction of upper eyelid trichiasis-entropion. It consists in removing 15 to 25mm of upper eyelid skin. A skin incision is made along the upper eyelid edge, 0.5 to 1.0mm dorsally to the meibomian gland openings

Table 1 - Data on dogs with trichiasis.

| Cases | Patients (n) | Eyes Operated | Age (yrs) Range | Sex | | Follow-up Time (yrs) |
|-------------------|-----------------|------------------|--------------------|-----|----|-------------------------|
| | | | | M | F | |
| E. Cocker Spaniel | 15 | 30 | 5/12 - 10 | 3 | 12 | 3 |
| Basset Hound | 2 | 4 | 2 - 6 | | 2 | 3 |
| Bloodhound | 1 | 2 | 6/12 | | 1 | 3 |
| Fila Brasileiro | 1 | 2 | 2 | | 1 | 3 |
| Mongrel dog | 2 | 4 | 6 - 9 | 1 | 1 | 3 |
| Total | 21 | 42 | 5/12 - 10 | 4 | 17 | 3 |

and inferiorly to the first upper eyelid cilia. The incision begins 2 to 4mm from the medial canthus and continues 5 to 10mm beyond the lateral canthus. The second incision is made in a bow line, approximately following the sulcus parallel to the dorsal orbital rim, which means a maximum of 15 to 25mm from the eyelid edge. The circumcised skin is dissected bluntly with Stevens's scissors and cut away dorsally. The wound edge is then cut away at the eyelid margin flatly over the meibomian glands. If the follicles remain at the lid edge, they are destroyed by cauterization or by scraping with a scalpel blade. The dorsal wound edge is sutured carefully to the subcutis, just dorsally to the base of the meibomian glands 5 to 6mm from lid margin. Initially, four to five simple interrupted marker sutures are placed for positioning. A continuous suture from canthus to canthus is then placed, leaving the rest of the wound open for forced secondary granulation healing and preventing spontaneous wound retraction and wound closure with subsequent recurrence of trichiasis. An absorbable suture material^a is used. Postoperative medication consists of topical chloramphenicol



Figure 1 - Bilateral trichiasis - entropion of Bloodhound before surgery.



Figure 2 - Initial phase of the surgical procedure. Notice limited areas and cutaneous incision for blepharoplasty.



Figure 4 - Final phase of the surgical procedure. Notice sutures and exposed subcutaneous of the palpebral area.

ointment^b *qid* in the conjunctival sac and on the open wound for 2 weeks. Sutures are removed 9 to 10 days postoperatively. The remaining wound is allowed to heal by secondary granulation and epithelialization, which gradually will become pigmented. The patients were re-examined at 7, 15 days and 1, 2, 3, 4, 6, 12 and 36 months postoperatively.

RESULTS AND DISCUSSION

The technique was 100% effective, without complications or recurrence. The eversion of the eyelid and a hairless strip of scar tissue adjacent to the eyelid margins prevented the recurrences. Correction of positioning of the upper eyelid was successful and its apposition to cornea was normal. Some eyelash-like hairs had remained on the eyelid edge in some cases, but they no longer reached the cornea. At removal of sutures on the ninth or tenth day after surgery, all open wounds were filled by granulation tissue, and reepithelialization had begun.

In most of the cases the reepithelialization was complete at one month after surgery. There appeared to be no loss of normal function of the eyelid (figure 5). These results are according to STADES (1987) and STADES & BOEVE (1987).

Several treatments exist for trichiasis but none is without potential complications such as recurrence within days or weeks and some are time consuming. The success of these methods depends also on the aetiology of the disease. Once trichiasis is frequently associated with entropion, some treatments may not be effective in these cases. According to PETERSEN-JONES (1993), upper eyelid trichiasis-entropion occurs most commonly in older English Cocker Spaniels. This study confirmed the high prevalence of trichiasis in English Cocker Spaniels. Additional data is given in the Table I. It was observed frequently coexistence of keratoconjunctivitis sicca (KCS) and trichiasis-entropion of the upper eyelid, although there is no real relationship between them according to STADES & BOEVE (1987).



Figure 3 - Intermediary phase of the surgical procedure. Notice palpebral cutaneous area excised.

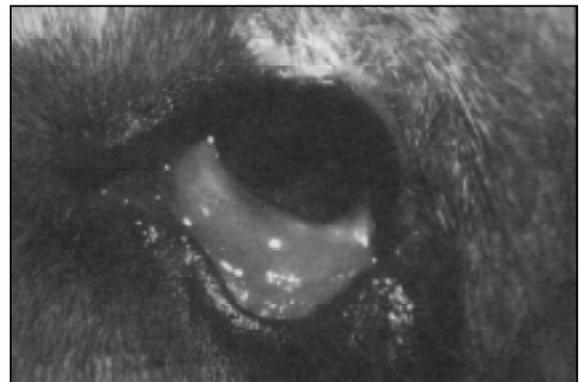


Figure 5 - Aspect of the palpebral condition 1 month after surgery.

CONCLUSIONS

The procedure described by STADES (1987) is relatively quick and simple technique. It is important to dissect skin with all its hair follicles, or else, it will regrow and may irritate the cornea again. This surgical method prevents recurrence induced by skin folds, as it may be found in some breeds.

SOURCES AND MANUFACTURES

- a - 4-0 Vicryl - ETHICON.
- b - Epitezan "Ocuium" - Frumtost S.A.

REFERENCES

- GELATT, K.N. **Veterinary ophthalmology**. 2 ed. Philadelphia: Lea & Febiger, 1991. Cap.6: The canine eyelids: p.256-275.
- PETERSEN-JONES, S.M. Conditions of the eyelid and nictitating membrane. In: PETERSEN-JONES, S.M., CRISPIM, S.M. **Manual of small animal ophthalmology**. Shurdington : British Small Animal Veterinary Association, 1993. Cap.4. p.65-89.
- SAMUELSON, D.A. Ophthalmic embryology and anatomy. In: GELATT, K.N. **Veterinary ophthalmology**. 2 ed. Philadelphia : Lea & Febiger, 1991. Cap.1. p.3-123.
- SLATTER, D. **Fundamentals of veterinary ophthalmology 2** ed. Philadelphia : Saunders, 1990. Cap.7: Eyelids: p. 147-203.
- STADES, P.C. A new method for surgical correction of the upper eyelid trichiasis-entropion: operation method. **Journal of the American Animal Hospital Association**, v.23, p.603-606,1987.
- STADES, F.C., BOEVE M.H. Surgical Correction of upper eyelid trichiasis-entropion: results and follow-up in 55 eyes. **Journal of the American Animal Hospital Association**, v.23, p.607-700,1987.