ISSN NO. 2320-5407

Journal homepage: http://www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH

RESEARCH ARTICLE

CONGENITAL CYSTIC EYE BALL AND ITS SURGICAL MANAGEMENT IN A ROTTWEILER PUP- A CASE REPORT

Anoop.S[1], Laiju M.Philip[2], Gayathri[3], Pallavi[4] ,Karthika[5] and Devanand.C.B[6]

1-MVSc,Ph.D- Assistant Professor, Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India.

2-MVSc- Assistant Professor, Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India.

3-MVSc Scholar- Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India

4-MVSc Scholar- Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India

5-MVSc Scholar- Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India

6-MVSc,Ph.D- Professor and Head, Department of Surgery and Radiology, College of Vet and animal Sciences, Mannuthy, Trichur, Kerala, India

Manuscript Info

Manuscript History:

Received: 15 May 2015
Final Accepted: 22 June 2015
Published Online: July 2015

Key words:

Congenital cystic eyeball, Rottweiler pup, cystectomy

Corresponding Author

Anoop.S

Abstract

A 50 day old Rottweiler pup was presented with a swelling on left ventral periorbital region with a missing normal left eye ball since birth. The pup was active and alert in behavior, with a normal general appearance, normal vitals and apparent aphakia of left eye but good vision in his right eye. Ultrasonography revealed a fluid filled mass in the ventral periorbital region with no visible ocular structures. An exploratory surgery of the cavity revealed a cyst and an eyeball beneath with attachments within the periorbital cavity. The cystic contents were aspirated and cyst was excised. Pup had an uneventful recovery with good physical and social development as his peers.

INTRODUCTION

Congenital cystic eye is a rare ocular and orbital malformation where eyeball fails to develop correctly in-utero and is replaced by benign, fluid filled tissue. The term was first coined by Ida Mann in 1937[1]. The condition is usually unilateral and affects the left eye mostly[2]. The congenital cystic eyeball develops when the primary optic vesicle fails to invaginate. The orbit has no rudimentary eyeball but is filled by a cystic mass. The orbital bone, lids and conjunctival sacs are fully developed. A case of a congenital cystic eye ball in a pup and its surgical correction is reported.

History: A male 50 day old Rottweiler pup was presented to the Teaching Veterinary Clinical Complex, Mannuthy with the history of abnormality in left eye since he opened up eyelids at 15days of age (Fig.1). The pup had shown signs of vision only on right eye. Feeding behavior and activity were reported to be normal. He was a pure bred with three other littermates all born by normal per vaginal first whelping of the bitch.

Observations: Puppy was normal in general appearance, active and alert with normal vital parameters. Ophthalmic examination elicited normal visual responses from right eye and stimulus to light from right eye alone. The right eye was essentially normal. The left orbit had no discernable eyeball and a ventral periorbital swelling was evident. The periorbital swelling ventral to lower eye lid was a non-painful fluid filled mass on palpation. Ocular examination revealed a transluscent, cystic in consistency, non-tender, non-reducible and non-pulsatile swelling in left ventral periorbital region. On B-mode ultrasonography, no ocular structures were discernable but a fluid filled cyst was observed.

Treatment: Surgical excision of the cyst was performed under general anaesthesia. During the course of the surgery a rudimentary eyeball was revealed in the periorbital cavity beneath the cyst (Fig.2), ventral to left lower eyelid. The cystic contents were aspirated and the cyst was excised. The wound was closed in routine manner and the puppy was put on oral antibiotics, ophthalmic antibiotic drops and supplements. He made an uneventful recovery shortly thereafter.

Discussion:

Congenital cystic eye can be defined as a non-hereditary disorder of unknown origin. Unilateral congenital cystic eyeball is a rare ocular malformation first described by Ida Mann in humans in 1937[1]. The disorder is most commonly unilateral, but bilateral congenital cystic eyeball has also been recognized[3]. It develops as a result of partial or complete arrest in invagination of primary optic vesicle between the 2mm and 7mm stages of foetal development. The first such a case reported in canines was in a 3-month old Cocker Spaniel [4].

The malformation is usually present at birth or may become apparent latter in childhood. The congenital cystic eye may be cystic or solid and the cyst may vary in size in relation to the patency of the stalk, and may be single or multiple. Connective tissue lined by neuroglial material composes the wall of the congenital cystic eye. The ocular structures derived from surface ectoderm, as lens or cornea, is lacking and the extra-ocular muscle surrounding the malformation may be normal or defective. Congenital cystic eye may be isolated or associated with intra or extra ocular malformations. The most common intraocular malformation described in association with congenital cystic eye is microphthalmia with cyst, as a rare entity cataloged on the spectrum of colobomatous eye disorders. Persistant hyperplastic primary vitreous in the fellow eye, dermal appendages, eyelid coloboma has been also recognized in association with congenital cystic eye. Congenetal cystic eye is less common than microphthalmos with cyst and it is similar to the cystic portion of microphthalmos with cyst as reported[5].

There is no standardized protocol for management of the congenital cystic eye. Surgical intervention is strongly advised inorder to obtain an optimal cosmesis. Regarding timing of surgery, cystic globes have been excised within a weak to several years after the birth. After excision of the cystic eye ball acceptable cosmesis was achieved by fitting prosthesis [6]. The excision of a congenital cystic eye at the age of seven months without the use of an implant and the conjunctival fornix was fitted with progressively larger spheres were also reported. Robb *et al*. reported a case of congenital cystic eye in which an initial attempt for excision was followed by reccurence of the cyst in the orbit after three months. Based on their experience, they concluded that every effort should be made to totally excise the congenital cystic eye when surgical removal is undertaken, due to the risk of recurrence.

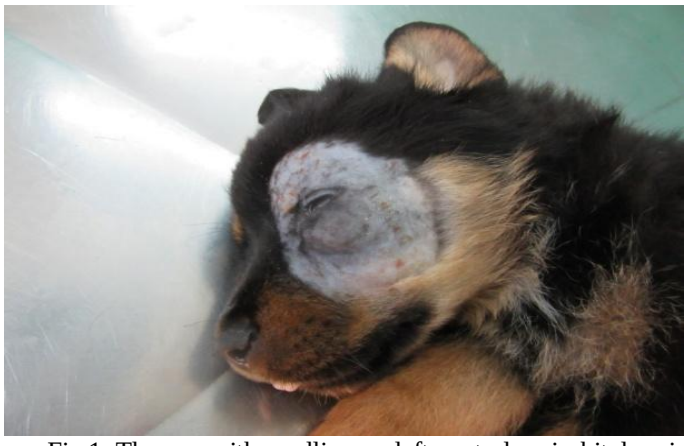

Fig.1. The pup with swelling on left ventral periorbital region

Fig.2. Rudimentary eyeball seen just below the cyst.

Summary:

A 50 day old male Rottweiler pup was diagnosed with a congenital left unilateral cystic eye. His left ocular orbit was surgically explored and a surgical cystectomy performed to excise the periorbital cyst ventral to lower left eyelid. A rudimentary ectopic eyeball was noticed beneath the cyst at surgery. The pup made up uneventful recovery and currently shows normal growth and development for his age.

References

1. Mann I:Development Abnormalities of the eye. Philadelphia, JB Lippincott Co. 1957,pp 66-69.

2. Gupta V P, Chaturvedi K U, Sen D K, Govekar K K.. Congenital cystic eyeball. *Indian J. Ophthalmol*. 1990: **38**:205-6.

3. Sacks JG, Lindenberg R: Efferent nerve fibers in the anterior visual Pathways in bilateral congenital cystic eyeballs. *Am. J. Ophthalmol* 1969, **68**:691-695.

4. Reginier,A. , Raymond-Letron, I. and Peiffer, R.L. Congenetal orbital cysts of neural tissue in two dogs. *Vet Ophthalmol*. 2008 11(**2**):91-8.

5. Dollfus M.A: Congenital cystic eyeball. *Amer. J.Ophthalmol*.1968: **66**: 504-509.

6. Chaudhary,I.A., Shamsi,FA., Elzardi,E, Arat, Y.O. and Riley,F.C 2007. Congenital cystic eye with intracranial anomalies: a clinicopathologic study. *Int. Ophthalmol*. **27**: 223-233.