

Dept. of Surgery

Fac. Vet. Med., Moshtohor, Zagazig Univ. (Benha branch)

Head Dept., G.M. Othman

OCULAR DERMoids IN SOME FARM ANIMALS

(With 9 Fig.)

By

S.F. ISMAIL

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أورام العين الجلدية في بعض حيوانات المزرعة

سامي فرغلي

من خلال هذه الدراسة تم تسجيل عدد ستة حالات اكلينيكية كانت مصابه بأورام الجلد بالعين. وقد وجد ان حالتين من هذه الحالات كانت كل منها مصابه فى عين واحد فقط ، ولوحظ ان الاورام شبيهه الجلد فى كلتا الحالتين كان منشأها ملتحمة العين فقط. وقد سجلت الاربع حالات الاخرى فى عجل الفريزيان وكانت جميعها مصابه بكلتا عيناها. وقد لوحظ فى هذه الحالات ان الاورام شبيهه لجلد قد امتدت لتشمل القرنيه والملتحمة والجفن الثالث. ومن الملحوظ أيضاً ان الجزء المغطى بالاورام شبيهه الجلد من سطح القرنيه يتراوح فيما بين ٥٠% إلى ٨٠% من السطح الكلى لها.

وقد تم الاستئصال الجراحى لجميع هذه الاورام. وقد تبين اثناء اجراء القشط القرنى للاورام التى تغطى سطح القرنيه ان بعضها يلتصق بالخلايا الظهارية للقرنيه فقط (عينان) والبعض الاخر يمتد ليشمل من إلى سمك القرنيه.

SUMMARY

Ocular dermoids were recorded in 6-clinical cases. In two cases of them, the dermoid masses were recorded unilaterally and confined to the conjunctiva alone. The other four cases were recorded bilaterally in Freisian calves and has been observed involving different proportions of the anterior segment surface of the eyeball (cornea, bulbar conjunctiva, and 3rd eyelid). The dermoid masses were excised surgically by conjunctivectomy (for conjunctival dermoids) and superficial keratectomy (for corneo-conjunctival dermoids).

INTRODUCTION

Ocular dermoid have been described by GELATT, 1972; and 1981; PRIESTER, 1972; VESTRE and BRIGHTMAN, 1980; ADAMS, HORSTMAN and HOERR, 1983; BRIGHTMAN, EVERITT and BEVACH, 1990; and SLATTER 1990 as a non cystic developmental malformation usually arising on the limbus, conjunctiva and /or cornea. It characteristically contains tissues of the skin and related appendages. The typically long hair shaft that arises from the lesion is predominatly responsible for the associated irritation and inflammation (GELATT, 1981). An area of pigmentation often precedes dermoids on the cornea (JENSEN, 1971).

Surgical removal of dermoid is recommended. The conjunctival dermoid is easily removed by conjunctivectomy (Slatter, 1990). Dermal elements that are situated on the cornea are removed by superficial lameller keratectomy (MANN, 1957; DUKE-ELDER, SER, 1964; and MCLAUGHLIN and BRIGHTMAN, 1983).

This investigation throws a light on ocular dermoids in some farm animals. Particular attention has been given to their surgical management.

MATERIAL and METHODS

The present study was conducted on 6-clinical cases, 4-of them are Freisian calves, one cow of native breed of cattle and one donkey. These animals were presented with a complaint of ocular tumor like masses. These tumors originated from different proportions of the anterior segment surface of the eyeball.

The tumor-like masses were diagnosed and identified

clinically as an ocular dermoid. All of them carry the typically characteristic long hair shafts of the dermoids. The diagnosis was confirmed by a histopathological examination of the excised tumor-like masses.

Surgical excision of the dermoid depends upon the nature of the swelling and their original sites. For surgical interferences, tranquilization of the animals followed by auriculopalpebral and retrobulbar nerve block were obligatory.

In conjunctival dermoids, conjunctivectomy was performed. The dermoid mass that originated from the palpebral conjunctiva in the donkey (Fig. 1) is grasped by rat-toothed forceps. A curved mosquito artery forceps is applied over the base of the tumor or at the neck of the pedunculated tumor (in the cow) at its junction with the palpebral and/or bulbar conjunctiva for about two minutes. The tumour is excised by using a curved scissors, then the forceps is removed and any bleeding from the conjunctival wound was arrested by electrocautery. The conjunctival wound is closed using 3/0 catgut in a continuous pattern. Garamycin eye ointment is applied two times daily for 7-days.

Cases in which the dermoids involve the cornea (in Freisian calves) superficial keratectomy was indicated and performed. The clear cornea is incised 1-2 m.m. all around the margin of the dermoid with a very fine scalpel. The stromal corneal lamellae is carefully separated from the dermoid by the aid of the scalpel and/or corneal dissector. The incision continue from the cornea into the conjunctivo-sclera until the dermoid is outlined (Fig.5). After removal of the dermoid, the margins of the conjunctival wound are sutured to the limbus with 6/0 cat gut. Subconjunctival Garamycin ampule was injected at once. This was followed by application of Garamycin and Regepithel eye ointments 3-times daily for at least two weeks. Then continue by Regepithel eye ointment alone until complete healing was acheived (for about two months). Temporary tarsorrhaphy with eye bandage is performed for about two weeks.

RESULTS

In the present study, ocular dermoids were recorded in 6 cases. Two of them were observed unilaterally and involving the conjunctiva alone.

The first was recorded in a two-years old donkey. A tumor-like mass was observed at a one O'clock position in the palpebral conjunctiva of the upper eyelid. The swelling was seen to be enchroached on the eyelid margin. It is covered with clumps of fine hairs (Fig.1) irritating continuously the

external surface of anterior segment of the eyeball (bulbar conjunctiva and cornea). Pigmentation of the cornea, bulbar and palpebral conjunctivae was seen associated with the conjunctival dermoid (Fig.1). The dermoid was excised and the conjunctival wound was sutured on a vertical line to the eyelid margin to avoid secondary entropion (Fig.2). Recovery was achieved 7-days postoperatively.

The second was recorded in a two-years old cow of the native breed. A pedunculated tumor like mass having the shape and size of a pigeon egg was observed arising from the lower conjunctival sac. The swelling was protruded beyond palpebral fissure over the lower eyelid at the medial canthus of the eyeball. It is non pigmented and carry a long tuft of hairs,erected outside the eyeball (Fig.3). The swelling was surgically excised and complete recovery was obtained 7-days post-operatively.

The other four cases were recorded bilaterally in Freisian calves and has been observed involving different proportions of the anterior segment surface of the eyeball. Six eyes of them were seen to have very large tumor-like masses involving the cornea, bulbar conjunctiva and the base of the third eyelid. The swellings are pigmented and carry very long pigmented hairs (Fig. 4, 6, 7, 8). The other two eyes were seen to have small tumor-like masses originating at the limbus and having the same character (Fig.9) The dermoid in most of these cases were observed to be originated at the ventral of the anterior segment surface of the eyeball (Fig.6,8). Only one of them was seen to be originated at the dorsolateral aspect of the eyeball (Fig.7). The involved portion of the cornea varied in size from 50% (Fig.8) to 80% (Fig.6, 9) from the entire corneal surface. Superficial keratectomy was performed in all cases affected with corneal dermoids (Fig. 5). The dermoid masses were found to involve only the corneal epithelial layer in two eyes, while in the other six eyes they were found to extend from one fourth to one third the depth of the cornea.

DISCUSSION

Ocular dermoids are congenital tumor-like masses of normal tissue arising in the conjunctiva (Fig.1, 3), often at the limbus and frequently overlying the limbus into the cornea (Fig. 4, 6, 7, 8, 9). The mass infrequently involves the third eyelid (Fig. 6, 8, 9).

The anomaly is usually noticed by the owner soon after the eyelid open. Often there are no associated signs and corneal lesions.

While the condition is a benign process, irritation from aberrant hair shafts and cosmesis frequently dictates removal early in life (GELATT, 1981). An area of pigmentation often precedes dermoids on the cornea if the condition was neglected (JENSEN, 1971).

The recorded cases in the present study were not associated with other congenital anomalies. While Saunders and RUBIN (1975) described two cases of dermoids associated with multiple ocular anomalies.

The statement of LAVACH (1990) that the dermoid although they are congenital, they are not known to be inherited. This is in agreement with our results. The case history revealed that, the parent and the grandparent of the affected cases in the present study were not affected with dermoids. While BARKYOUNB and LEIPOLD (1984) stated that the dermoid in Hereford cattle may be inherited as a simple recessive or a polygenic trait.

Surgical excision of the ocular dermoids are indicated, as the mass causing ocular discomfort or it was considered unsightly by the owner, correction involves critical evaluation of extent followed by complete careful surgical excision. If the mass was confined to the conjunctiva, conjunctivectomy was easily performed (Fig. 2). While if the lesion extends onto the cornea, superficial keratectomy was performed (Fig. 4). The prognosis for removal without residual scar formation is guarded and depends on the depth of the lesions within the cornea. Deep corneal dermoid can not be removed without leaving a scar, although superficial keratectomy is successful in many cases. Failure to dissect deeply enough will cause permanent corneal opacity and possibly some regrowth of dermoid tissue. After removal of the dermoid, the margins of the conjunctival wound are sutured to the limbus.

Some difficulty may be encountered with this, because limbal tissue tears easily, but it is important for keeping periorbital fat out of the wound. Suturing to the limbus tend to reduce healing time, patient discomfort, and the possibility of symblepharon or conjunctival over growth (LAVACH, 1990).

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