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STUDIES ON SOME SURGICAL AFFECTIONS OF THE EXTERNAL EAR IN FARM ANIMALS

(With One Table & 18 Fig.)

By

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دراسة عن بعض الاصابات الجراحية للأذن الخارجيه في الحيوانات الاليفه

سامي اسماعيل

تم تسجيل ١٢١ حالة اكلينيكيه كانت تعانى من الاصابات المختلفه للأذن الخارجيه وقد تم تصنيف هذه الاصابات الى :

جروح صوان الأذن الخارجيه : وقد احتلت هذه الاصابات المرتبه الأولى حيث انها كانت تمثل تقريباً حوالى العدد الكلى لاصابات الأذن الخارجيه (٤٠ حاله).

التهاب الأذن الخارجيه : وقد احتلت المرتبه الثانيه بين الاصابات المختلفه حيث وصل عدد الحالات المصابه بالتهاب الاذن الخارجيه الى ٣٨ حاله . وكان معظم هذه الحالات من النوع الطفيلي .
الاكياس الجلديانيه : وسجلت معظم الحالات فى الجمال (٢١ حاله) بينما سجلت حاله واحده فى حمار .

الاورام : وتم اجراء الفحص الهستوباثولوجى والعلاج الجراحى المناسب لجميع الحالات .

القليله الدمويه لصوان الاذن : وتم تسجيل عدد ثلاث حالات كلها فى الأرنب .

القراخ : وكانت الاصابه فى الحالات التى سجلت منتشره فى أماكن اخرى من جلد الحيوان .

SUMMARY

Different varieties of surgical affections of the external ear were recorded in the present study. These affections include: Wounds and lacerations (40-cases), Ot-Haematoma (3-cases), Dermoid cysts (22-cases), Tumours (14-cases), Otitis externa (38-cases), and Ringworm (4-cases).

Keywords: Surgical affections, external ear form animals

INTRODUCTION

Surgical affections of the ear in farm animals reported by many authors were many and varied. From these affections: wounds and lacerations of the ear flap (BARNETT, 1974; DIETZ and WIESNER, 1984), Ot-Haematoma (TITUS, 1974; COWLEY, 1976; WILSON, 1983; and BOYD and TITUS, 1988), Tumours of the ear (O'CONNOR, 1965 and ROSE, 1978), Dermoid cyst (TITUS, 1974 and WIENER, 1984), Otitis externa (DALL, 1968; ROSE, 1976; HARVEX, 1980; and MSOLLA, MMBUJI and KASUKUM, 1987).

Surgical affections of the auricle as well as external auditory meatus, hinders collection and passage of sound waves and considerably impairs the hearing and effect on the health of the affected animals. So the treatment should be performed as quickly as possible.

The aim of the present study is to throw the light on some surgical affections of the external ear in farm animals.

MATERIAL AND METHODS

The present work was conducted on 121 clinical cases: 18-buffaloes, 12-cattle, 53-camels, 14-sheep, 21-donkeys and 3-rabbites. Some of these were collected from Governemental farms and the other cases were presented to the clinic with a history of different ear affections. Each condition was subjected to a full study including clinical examination, diagnosis, differential diagnosis and treatment. Histopathological examination was also performed in certain cases.

For accurate clinical examination of the ear, for application of medicaments and for minor surgical intervention, Tranquilization of the animals was obligatory. Rompun was used in buffaloes at a dose rate of 0.08 mg/kg b.w, in cattle and camel at a dose rate of 0.05 mg/kg b.w, and in sheep at 0.2 mg/kg b.w. Donkeys were tranquilized with combelen in a dose

rate of 0.1 mg/kg b.w Local infiltration anaesthesia was performed using lignocaine Hcl 3% in some surgical interventions.

RESULTS

The different types of ear affections with the number of the affected animals are tabulated in the following table.

Types of ear affections	Animal species						Total
	Buffaloes	Cattle	Camel	Sheep	Donkeys	Rabbits	
1- Wounds and laceration of ear flap.	16	3	-	2	19	-	40
2- Ot-Haematoma	-	-	-	-	-	3	3
3- Dermoid cysts	-	-	21	-	1	-	22
4- Tumours	-	6	-	8	-	-	14
5- Otitis externa	2	2	32	1	1	-	38
6- Ringworm	-	1	-	3	-	-	4
Total	18	12	53	14	21	3	121

1- Wounds and lacerations of the ear flap:

The case history of wounds and lacerations of the ear flap indicated that most of these cases in buffaloes and cattle are caused by hard ropes (13 cases). The ropes were applied to the base of the ear as a method of control and left for a considerable long time leading to injuries and subsequent infection manifested by auricular cellulitis (Fig: 1).

Cases of bees stings were recorded in 8-donkeys. The condition became worse in neglected cases. The forehead including the eyelids and the ear flap (specially its base) were severely swollen, worm and painful. Such swelling subsided gradually within 24 hours in the treated cases with antihistaminic (Avil ampoule), one ml/15 kg b.w. i.m., two successive doses were sufficient. The skin of ear flap in the neglected cases (3 cases) became fissured and cracked. A meat like juice exuded from such fissurs and after a short period of time it was transformed into a purly purulent discharge (Fig.

3). Healing in such a condition was achieved by secondary intention over a long period of time (nearly 4-weeks).

The other cases were recorded as a result of barbed wire injuries, sharp Cut instruments (Fig. 4) and forced detachment of ear tags entangled with animal fences. One case was recorded as a result of a continuous rubbing of the ears against hard object in a rabied nervous donkey (Fig. 5).

The recent wounds were cleaned and trimmed after haemostasis. The, skin edges over the cartilage were coaptated using fine silk stitches with eyeless needle. In old wounds removal of the cause is very important before application of the usual wound managements.

2- Ot-Haematoma:

In the present study ot-haematomas were recorded only in rabbits (3-cases). They were restricted to the inner surface of the ear flap and observed in the form of an oval fluctuating swelling between the skin and the cartilage (Fig. 6). The diagnosis was confirmed by exploratory puncture. The haematomas were opened after the blood being clotted (8-days later), then evacuate its contents. To assist the adhesions of the skin to the cartilage, several mattress sutures were made all around the place of the haematoma with about one Cm. a part from each other. A bandage is made including both ear around the head is necessary and the stitches were removed 8-days post-operatively.

3-Dermoid cysts:

dermoid cysts were mostly recorded in camels (21-cases) and only one case was recorded in a donkey. The condition in the donkey revealed presence of a pigeon-egg swelling at the base of the cranial border of the conchal cartilage (Fig. 7). The swelling was doughy on palpation and the exploratory puncture revealed presence of a dirty, thick and greyish-brown fluid. Surgical excision of the swelling was easily performed (Fig. 8) The cross section of the excised swelling revealed that the content was differentiated into a muddy clay-like material and separate tufts of hairs. The inner living membrane was pigmented in different areas and carry very long white hairs (Fig. 4). Healing was obtained 8-days after cystic excision where the skin stitches were removed.

Most cases of dermoid cysts in camels were recorded Unilaterally (16-cases) and the other few cases were recorded bilaterally (5-cases). The clinical examination revealed that all cases of dermoid cysts in camels nearly have the same characters of that case recorded in the donkey. They revealed presence of rounded, hens-egg swellings at the base of

the cranial border of the conchal cartilages. The swellings were fluctuating and the exploratory puncture revealed blackish fluids present under pressure (Fig. 10). They were surgically excised and the cross section have the same picture noticed in that of donkey.

4- Tumours

Neoplasms of the external ear were recorded in 6-cattle and 8-sheep.

In cattle: The 6-cases were collected from the farm of the Faculty of Agriculture, Benha Univ. The swellings appeared in the form of pedunculated, horn like or cauliflower or water-like papillomas. They showed variable size and firm in consistency and grey in colour (Fig. 11). Other swelling were seen to be scattered in different areas of the skin of the affected animals. Histopathological examination of the excised swellings revealed that the condition was viral papillomatosis infection in cattle.

The other cases of the tumours of the ear were recorded in sheep (8-cases) and the histopathological examination differentiated them into: 3-cases squamous cell carcinomas (Fig. 12), 4-cases fibro-papillomas (Fig. 13), and one case keratoacanthoma (Fig. 14). Surgical excision of fibropapillomas and kerato-acanthoma was performed and the skin wounds was easily coaptated (Fig. 15). Surgical excision of at least² of the ear flap was performed in cases that diagnosed as squamous cell carcinomas.

The follow up of these cases was not available as the owners of such cases not did return again.

5- Otitis externa

Otitis externa cerumenosa was recorded in 2-buffaloes, 2-cattle and 1-sheep. it was characterized by presence of large amounts of cerumen at the external auditory meatus accompanied by slight inflammatory reaction.

The otitis externa purulenta was recorded in one donkey. The purulent discharge was clearly visible from the external auditory meatus with severe inflammatory reaction and ulceration of the skin lining the external auditory meatus (Fig. 16).

The ear canal was cleaned using a forceps raped with cotton and then washed with mild antiseptic (povidone-iodine solution 1:10). Local application of chloramphenicol ear drops 2-times daily for 3-successive days was performed.

The parasitic otitis externa was recorded only in camels. 32-cases appeared to be affected. The heavy infestation of ticks were clearly seen on the inner surface of the ear flap at the entrance of the external auditory meatus (Fig. 17).

6- Ringworm

This affection was recorded in the present study in one cow and 3-sheep. The lesions were not restricted to the skin of external ear flap but were distributed all over the skin of the animal body in all affected animals (Fig. 18).

DISCUSSION

The results of the present study indicated that the most common affections of the external ear in farm animals are wounds lacerations of the ear flap and otitis externa. Each of them represents nearly about one third of the total number of ear affections (40 and 38 from 121 cases respectively). These results are in agreement with that given by ROSE (1976), HARVEY (1980), and Eissa (1992), who stated that wounds and lacerations of the ear flap and otitis externa are the diseases of the high incidence among the other affections of the ear.

Auricular cellulitis develop in ear wounds of several days old (DIETZ and WIESNER, 1984). So the wounds of the ear flap must be treated as quickly as possible.

Parasitic otitis externa is the most common form of otitis externa recorded in the present study (32 from 38 cases). All cases were recorded in camels as a result of sever degree of tick infestation (otocariasis). The lesions varied from small, focal, hyperkeratotic plaques to large coalescer raised, wartlike papillomas on the inner surface of the ear concha (ROSE, 1976).

Dermoid cysts occupy the third place among the ear affections in the present study. Camels were seen to be the most affected animals (21-cases from 22). It is relatively common form of teratomas in which the cystic wall is lined by skin and filled with an increasing amount of hair which grows from it (BOYD, 1961). Nearly, the same picture was observed in the presented cases and the surgical excision was suggested as a radical treatment.

Neoplasmas of the external ear recorded in the present study were differentiated into viral papillomatosis (6-cases) fibro papillomas (4-cases) squamous cell carcinomas (3-cases) and kerato-acanthoma (1-case). These results are in agreement with that given by DIETS and WIESNER (1984), who stated that tumours of the external ear mainly are papillomas or warts and rarely condrosarcoma and aquamous cell carcinomas.

Surgical excision is the radical treatment for all cases but it necessitate to excision least $\frac{2}{3}$ of the ear flap in cases diagnosed as squamous cell carcinomas. As the incision in such

cases must be performed far away from the neoplasm to guard against the post-operative metastatic lesions.

In spite of the fact that the main blood supply to the ear flap are present subcutaneously at the external surface and exposure of this surface to traumas more than the internal one, all recorded cases of haematomas of the ear flap were registered from the inner surface. these results were supported by many authors (LARSEN' 1968; COMPLEX, 1976, and WILSON, 1983). The condition may be not due to rupture of large blood vessels and occurs as a result of rupture of minute vessels which are present at the perichondrium, so separation occurs between the perichondrium and the chondrium resulting in intrachondral rupture and haematoma formation (LARSEN, 1968).

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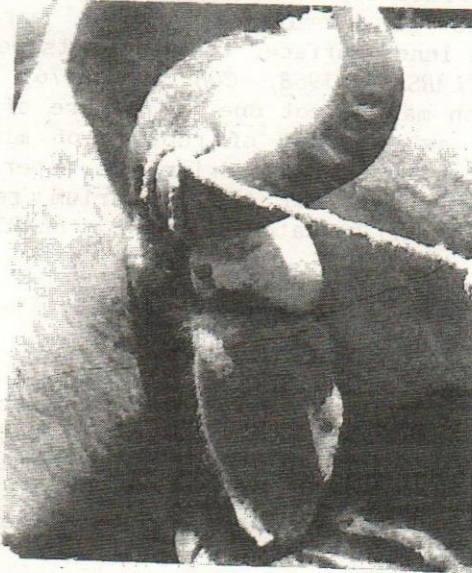


Fig. (1): Lacerated wounds of the ear flap in a buffalo induced by application of a hard rope for a long time.



Fig. (2): Bees sting in a donkey
Note: The face including the eyelid and the ear flap specially its base were severely swollen.



Fig. (3): An advanced case of bees stings in a donkey. The skin of the ear flaps become fissured and cracked with a meat like juice discharged from it.



Fig. (4): A curled skin of the ear flap induced by a sharp cut instruments in a donkey.



Fig. (5): A lacerated wounds of the ear flaps in a nervous rabied donkey.



Fig. (6): Ot-haematoma at the inner aspect of the ear flap in a rabbit



Fig. (7): Dermoid cyst at the base of the anterior border of the conchal cartilage in a donkey.



Fig. (8): The same case in Fig. (7) after excision of the dermoid cyst.



Fig. (9): cross section of the excised dermoid cyst in Fig.(7) revealed that the inner wall was pigmented in different areas and carry a very long white hairs.



Fig. (10): Dermoid cyst in a camel
Note: The exploratory puncture of the cyst revealed a blackish fluid;



Fig. (11): Viral papillomatosis in cattle. Note. The cauliflowerlike papilloma at the as a of the anterior border of the ear flap. other papillomas were scattered all over the skin of the animal body.



Fig. (12): Squamous cell carcinoma at the left ear flap of a sheep.

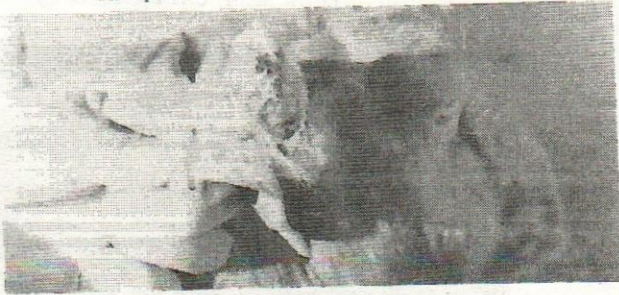


Fig. (13): Fibro-papilloma at the right ear flap of a sheep.



Fig. (14): Kerato-acanthoma at the base of the ear concha in a sheep.



Fig. (15): The same animal in Fig. (14) after surgical excision

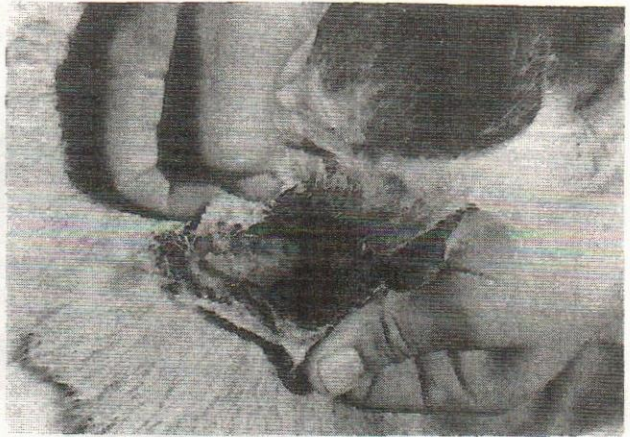


Fig. (16): Otitis externa purulenta in a donkey. Note: The purulent discharge was clearly visible from the external auditory meatus.



Fig. (17): Parasitic otitis externa
in a camel. Note: The heavy infestation
of ticks was clearly visible
on the inner conchal surface.



Fig. (18): Ringworm at the skin
of the ear flap of a sheep