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SURGICAL AFFECTIONS AND ABNORMALITIES OF GROWTH AND DIRECTIONS OF THE HORNS IN CATTLE IN BEHERA GOVERNORATE

(With 3 Tables & 20 Fig.)

By

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الاصابات الجراحيه وشذوذات النمو والاتجاه فى القرون فى الابقار والجاموس فى محافظة البحيره

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أجريت هذه الدراسه بغرض التوصل الى أهم الاصابات الجراحيه والشذوذات فى النمو والاتجاه فى الابقار والجاموس فى محافظة البحيره .

وتم تجميع الحالات من المزارع الحكوميه وحالات المستشفى بكلية الطب البيطرى - ادفينا وبعض الحالات الفرديه والمزارع الخاصه وتبين من الدراسه ان اهم هذه الاصابات هى كسر القرون شقوق القرون تسوس القرون وخلع الغطاء القرنى للقرون وبالنسبه للشذوذات تبين ان أهمها كان الزياده المقرطه فى النمو وتغير اتجاه نهايات القرون وضغط هذه القرون على مناطق قاعدة الاذن وزاوية العين الخارجيه والجفن العلوى ومنطقة الجبهه وكذلك منطقة الوريد الوداجى مما أدى فى بعض الحالات الى غلق العين ، فى بعض الحالات استمرار فتح العين دون المقدره على تحريك الجفون .

وفى حالات أخرى أدى الى وجود جروح عميقه بمنطقة الوجه وتم معالجة جميع الحالات جراحيا .

SUMMARY

Cows and buffaloes are main sources of meat and milk production in Egypt and most countries all over the world. In the present investigation, the horn abnormalities and affections in cows and buffaloes were studied. These abnormalities included ellongation of the horn and its direction toward the base of the ear, upper eyelid, supraorbital region, the frontal region, lateral commisure of the eye, and jugular vein. Also some cases of loose horns were reported. Horn affections met with were complete fracture of the horn, horn avulsion, horn cracks and horn caries. All the cases were treated surgically.

Keywords: Surgical affections, abnormalities, horns, Caitle, behera, Egypt

INTRODUCTION

Cows and buffaloes are the most important source of meat and milk production all over the world. Horns of these animals may be a source of many injuries to the animals themselves due to the pressure of the horns on the soft tissues and dangerous to each other and the surrounding individuals, and many other affections as abdominal hernias, udder affections and abscesses, occur as a result of animal fighting *(BAKER, 1981; and OEHME & PRIER, 1974).*

The horns consist of the cornual process of the frontal bone which is osseous continuation of the bone of the skull. In the older animals, the cornual process become excavated to become continuous with and form a portion of the frontal sinus. The horn proper is secreted by the coronary corium and is attached closely to the cornual process *(FRANK, 1981).* The horns of cattle, sheep and goats have no useful function in domestic species. The surgical removal of the horns of cattle is widely practiced throughout the world however it is considered advantageous to reduce injuries from fighting *(OEHME and PRIER, 1974).*

BAUOMI (1990) discussed the horn abnormalities in sheep and goats in which horns were curved toward the jugular groove, parotid gland, lateral canthus of the eye, and around the base of the ear. L-shaped and inverted L-shaped horns were also observed pressing on the base of the ear leading to their necrosis. The above mentioned author and *SAYED (1988),* reported

other forms of horn abnormalities such as screw-like horns, hooked horns and loose horns, fused horns, biforcated horn in goats. Horn affections such as fractures horn avulsion, horn caries and cracks are also discussed by many authors *(OEHME and PRIER, 1974; DOUGLAS & JAMES, 1980; HAIGH, FARROW & FERGUSON, 1980; O'CONNOR, 1982; SAYED, 1988; and BAUOMI, 1990).*

Anaesthesia of the horn is performed under the effect of nerve blocl of the cornual nerve by injection of 5 ml. of 2% lidocatine or equivalent drug in mid way along a line joining the center of the orbit and the base of the horn *(FRANK, 1981; LUMB and JONES, 1973; OEHME & PRIER, 1974; O'Connor, 1982; and FOUAD, et al. 1979). SAYED (1988)* reported that the most suitable anaesthesia for horn in large animals can be attained by combination between nerve block and ring block at the base of the horns than using one of them alone.

AIM OF THE WORK:

The aim of the present work is to :

1 - study the different forms of abnormal directions and growths of the horns in buffaloes and cows and their complications at Behera Governorate.

2 - recording the different surgical affections met with in cows and buffaloes.

MATERIALS AND METHODS

In the present work 32 cows and 11 buffaloes were presented to the clinic of the faculty of veterinary medicine, collected from Governmental farms and private farms at Behera Governorate and also sporadic cases owned by the farmers, suffering from different sugical affections of the horn and also horn abnormalities in directions and growths. The clinical cases were subjected to a full study including, case history, clinical symptoms, diagnosis and treatment. The horn abnormalities and affections were enumerated and tabulated in table (1).

The abnormal growth and direction of the born was also grouped into two groups:

Group 1: with complications such as skin wounds around the base of the ear, and at the face, and pressure above the supraorbital region. Shortening of the horns and dressing of the wounds were performed.

Group 11: without complications in which the horns are directed laterally or upwards without causing complications to the same animals but the owners preferred shortening of the born to prevent the risks of fighting (6 cows and 4 buffaloes).

RESULTS

1 - Horn abnormalities (abnormal direction and overgrowth of the born):

In this study 32 cows and 11 buffaloes were suffered from some horn abnormalities and affections. The abnormalities included elongation or overgrowth of the horns to different forms and direction. Forms were straight, semicircular, halfcircular and curved. The directions were mainly towards the lateral commissure of the eye, base of the ear, upper eye lid, frontal sinus, supraorbital region and jugular groove. All cases were illustrated in table (2).

11- Horn affections:

Horn affections met with were classified as follows:

1 - Horn fracture:

The horn fracture was met with in 4 cows (2 Balady and 2 mixed) and 2 buffaloe cows. The fracture was near the base of the horn in all cases (Fig. 16 & 17). Treatment was performed under the effect of 15 ml. procaine Hcl 3% solution as a circular infiltration anaesthesia around the base of the horn. The fractured horn was separated at its attached part using sterile scalpel. The seat of the fracture was flushed with mild antiseptic solution and penicillin powder was applied. A bandage was applied over the area of the fractured horn. A piece of gauze was fixed above the wounded area using two or three interrupted silk stiches to protect the would against contamination.

There were also 2 cases of old fractured horns in two cows, one was the righ horn of a mixed cow previously mentioned in (fig. 9) and another left horn in a Balady cow. Spontaneous healing was reported without any surgical interference.

2 - Horn acvulsion:

A 7 ears old Balady cow was recorded in the present study suffered from avulsion of the left horn (Fig. 16). The horn core was intact, the born was completely fall down. The horn core was washed using warm normal saline and the penicillin procaine powder was put on. A sterile bandage was applied.

3 - Horn cracks:

One case of 6 years buffaloe cow was met with suffering from longitudinal crack in the left horn about 15 cm. distance from its base on the lateral surface of the horn (Fig. 18). The

depth was about 1/2 cm., white powder (horny material) was observed, when introducing fixed scalpel inside the fissure denoting the presence of a localized progressive disintegration of the horny material. The case was treated by curetting of the horny material until reaching the healthy horn (Fig. 19).

4 - Horn caries:

One case of 8 years old was recorded with the presence of a localized progressive disintegration of the horny material. The disintegrated horny material was curetted and removed until reaching the healthy horn (Fig. 20).

DISCUSSION

The horns of cows and buffaloes have no useful function. These horns are very dangerous to the animals themselves due to the pressure of the abnormal growth and/or direction of the horns on the soft tissues. The dangers and injuries also extended to the surrounding animals and also the individuals come in contact with them. When the horns overgrown in abnormal direction, they may press on soft tissues of the head and neck and they may obscure vision.

In the present work, many abnormal direction and growth of the horns were met with. The most important complications met with in our work was the closure of the eye as a result of pressure of the tip of the horn between the base of the ear and the lateral commissure of the eye. Other complications met with were also the pressure of the horns over the upper eyelid and on the lateral commissures of the eye leading to lagophthalmos, pressure of the horn above the frontal and supraorbital region, base of the ear and jugular groove leading to skin wounds. All these results are in agreement with that stated by *SAYED (1988) and BAUMI (1990).* In sheep and goat.

Among surgical affections met with in our results, there were horn fractures in buffaloe cows and also in 4 cows, 2 of them were recent fractures on the right horn and 2 were old fractures in Balady and mixed cows. All fractures met with were at the base of the horn, similar cases of fracture of horns were described by *OEHME and PRIER (1974); O'Connor (1982); Baumi (1990)* in sheep and goat. While, *SAYED (1988),* reported that the most common fractures met with was the middle fractures. The cause of the horn fractures appear to be same in all domestic animals. They are usually caused by striking of the horn against a fixed object. The treatment of these fractures was done on the same method for horn fracture treatment which was described by *BAUMI (1990)* after nerve block around the base of the horn using peocaine Hc1 3% Two cases of

old complete fracture of the horns were met with in 2 cows. These animals were presented for examination after elapse of a long time with presence of contamination of the horn but without complication. The fractured area was dressed and antibiotic was injected, similar results of fractures were also met with and treated in the same manner by *SAYED (1988).*

Avulsion of the horn was reported in our work in 2 cows in the left horn. Avulsion occurs usually as a result of striking of the horn against hard object with a degree of traction along the longitudinal length of the horn. Fixation of the horns in a narrow holes at the farm fences or manger and trials of the animal to freed his head may be the direct cause of the condition, These results agreed with that of *SAYED (1988) and BAUMI (1990)* in sheep and goat.

In the present work, horn caries was recorded in a buffaloe cow where the horny material was disintegrated, this results were in agreement with that mentioned by *SAYED (1988)* in sheep who said also that the caries may be attributed to the age of the animals.

Two cases of longitudinal fissures cracks were recorded in buffaloe cows in which the crack was present in the lateral side of the horn filled with disintegrated horny material, similar results were recorded by *SAYED (1988) and BAUMI (1990)* in sheep.

Fracture at the base of the horn without separation of the horny material was recorded in 3 cows in our study. This fracture is characterized by absence of any clinical signs except the presence of horn mobility (movable horn). Passive movement usually reveals tenderness and painful reaction on the animal, the same result were obtained by *SAYED (1988).* These cases were also accompanied with abnormal elongation and direction of the horn pressing on the supraorbital region in one cow and on the lateral commissure of the eye in the other.

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LEGENDS

Fig. 1: Showing 7 years old Frisian cow with semicirular right horn with its tip downward and outward directed pressing above the supraorbital region.

Fig. 2: Showing 6 years old Balady cow with curved inward and downward directed left horn leading to skin necrosis at the base of the ear.

Fig. 3: Showing 7 years old Balady cow with curved right horn directed inward with its tip embedded in the supraorbital region.

Fig. 4: **a-** Showing 6 years old Balady cow with curved horn directed downward and inward where the tip of the left horn is embedded in the skin between the base of the ear and lateral commissure of the eye leading to skin wound and closure of the left eye.
b- The same animal after shortening of horn showing opening of the eye again.

Fig. 5: Showing 6 years old Balady cow with horns curns curved and directed downward. The tip of the left horn predding above the upper eye lid leading to its continuous opening.

Fig. 6: Showing 7 years old mixed cow with curved downward directed right horn with its tip pressing over the lateral commissure of the eye.

Fig. 7: Showing 5 years old Balady cow with curved right horn with mobility of the right horn.

Fig. 8: Showing 5 years old Balady cow with downward and inward semicircular left horn and hooked-like right horn.

Fig. 9: Showing mixed cow 7 years old with upward directed curved left horn and old fractured left horn.

Fig.10: Showing 7 years old mixed cow with bilateral half circle downward directed horns pressing over the supraorbital region.

Fig.11: Showing 5 Years mixed cow with curved right horn which is directed downward and its tip is directed medialy, the horn press over the frontal region2.

Fig.12: **a-** Showing 5 years mixed cow with curved right horn and half circular left horn where its tip embedded in the skin at the base of the ear leading to its ulceration.
b- Showing the same animal after shortening appearance of skin ulcer.

Fig.13: Showing 6 years old Frisian cow with downward directed left horn pressing over the base of the ear, this horn is mobile.

Fig.14: Showing the mobility of the horn of the previous cow.

Fig.15: Showing elongated hook-like right horn pressing over the jugular groove of a 7 years old buffaloe cow.

Fig.16: Showing 7 years old Balady cow with fractured right horn and avulsion of the left horn.

Fig.17: Showing fractured right horn at its base in a 5 years old buffaloe cow.

Fig.18: Showing 8 years old buffaloe cow with long crack in left horn.

Fig.19: Showing the cracked horn in buffaloe cow after treatment (curetting and removal of the necrosed horny material).

Fig.20: Showing buffaloe cow 7 years old with horn caries after removal of the necrosed horny material.

Table (1): Showing horn abnormalities and affections in cows and buffaloes

Horn abnormalities and affections	cows	Buffaloes	Total
Abnormal horn growth and directions	23	7	30
Horn avulsion	2	-	2
Horn fracture	4	2	6
Horn cracks	-	1	1
Movable horn	3	-	3
Total	32	11	43

Table (2) showing abnormal growth and directions.

Case	No. of animals	Direction of the horn	Lesion	Treatment
Fresian cow (7 years)	1	Semicircular right horn directed downward toward the supraorbital process (Fig. 1).	Slight pressure above the supraorbital region.	Shortening of the horn with embryotomy wire.
Balady cow (6,7 years)	2	The two horns are directed inward and downward near the base of the ear (Fig. 2).	Skin excoriation at the base of the ear.	Shortening of the horn with embryotomy wire.
Balady cow (6,7 years)	2	The two horns are downward and inward directed and curved above the supraorbital region (Fig.3).	Pressing above the supra-orbital region leading to skin necrosis.	Shortening of the horn with embryotomy wire.
Balady cow (5,6 years)	2	Downward and inward directed horn where the tip press above the skin between the lateral commisure and base of the ear (Fig. 4 a,b).	Skin wound between the base of the ear and the lateral commisure of eye. with closure of the eye.	Shortening of the horn with embryotomy wire.
Balady cow (6 years)	1	The two horns are directed downward, the tip of the left horn directed toward the upper eye lid (Fig. 5).	Pressing above the upper eye lid preventing eye lid closure.	Shortening of the horn with embryotomy wire.
Mixed cow (7 years)	1	The horn was curved downward directed with pointed end embeded in the lateral commisure of the right eye (Fig. 6).	Inability to close the eye along with skin wound at the site of the tip of the horn.	Shortening of the horn.

Case	No. of animals	Direction of the horn	Lesion	Treatment
Balady cow (5 years)	1	Halfcircular right horn directed downward and posteriorly (Fig. 7).	Pressing above the base of right ear. The same horn was movable.	Dehorning of the horn from its base.
Balady cow (5 years)	1	Halfcircular downward and inward directed left horn reaching the skin at the base of the ear. The right was hooke-like laterally directed (Fig. 8).	No lesions.	Shortening of the horn.
Mixed cow (5 years)	1	upward directed curved left horn with old fractured right horn (Fig. 9).	No lesions.	Dressing of the horn and antibiotic injection.
Mixed cow (6,7 years)	2	Bilateral curved downward directed horns (Fig. 10).	The tip of the horn pressing over the skin in the supra-orbital region.	Shortening of the horn.
Mixed cow (5 years)	1	Curved downward directed right horn with its tip medially directed (Fig. 11).	Pressing above the frontal region.	Shortening of the horn.
Mixed cow (5 years)	1	Curved downward and inward directed left horn (Fig. 12 a,b).	The tip is embeded in the skin at the base of the ear leading to skin wound and ulcer.	Shortening of the horn.
Fresian cow (5,6 years)	2	Abnormal mobility with ellongation of the horn (Fig. 13,14).	Press over the skin near the base of the ear.	Shortening of the horn.


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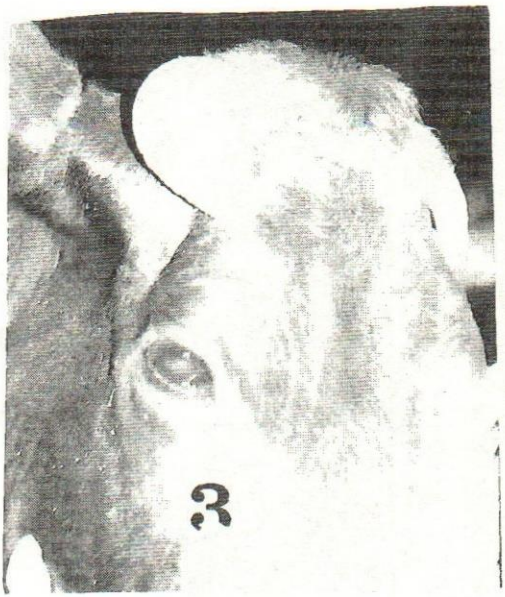
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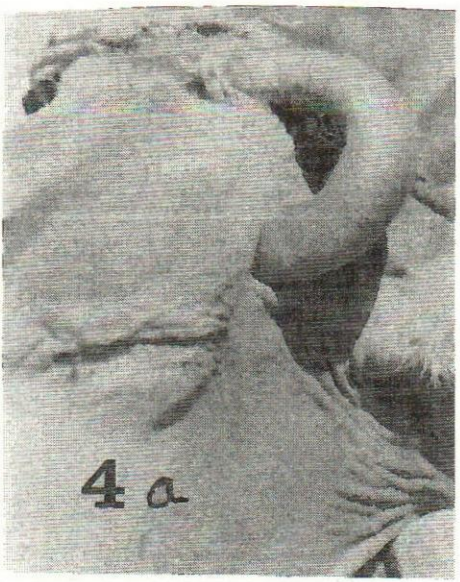
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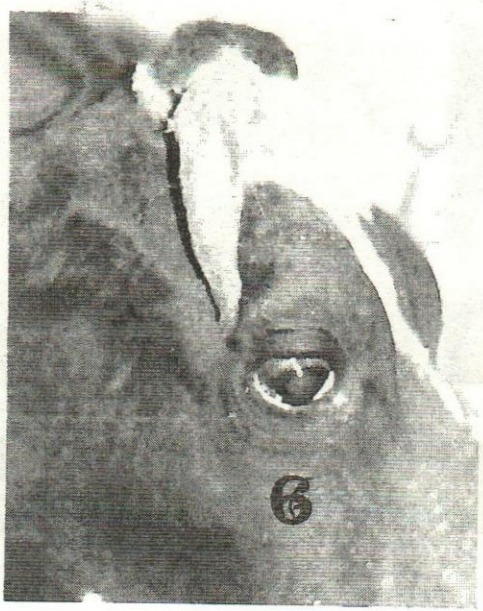
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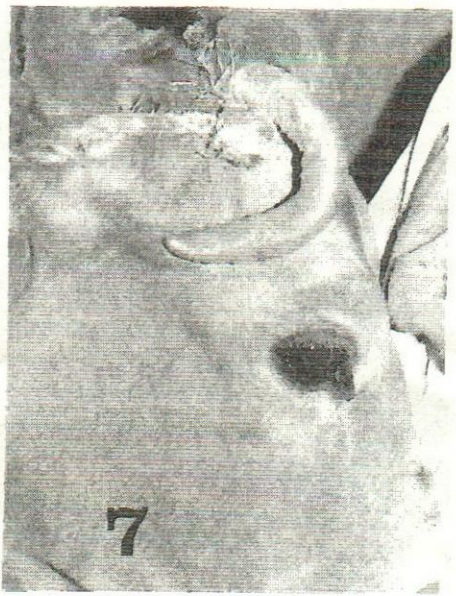
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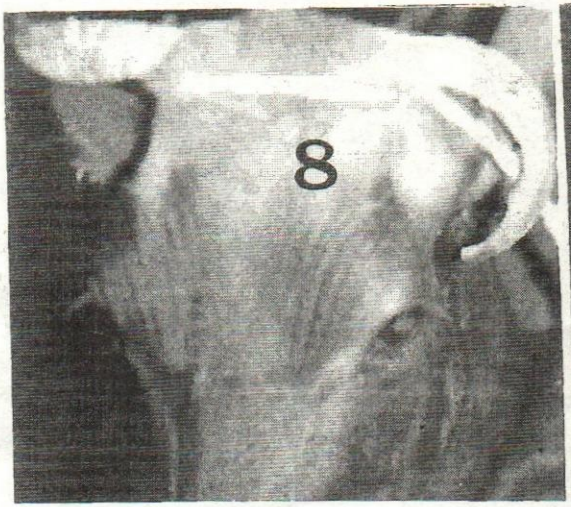
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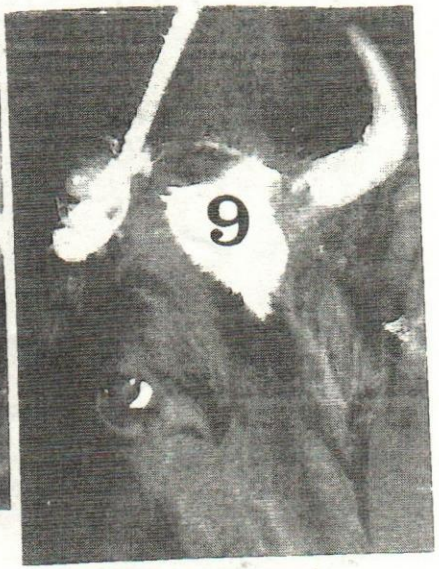
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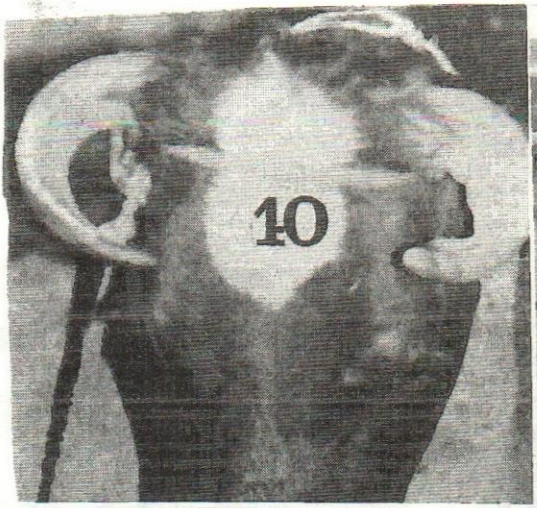
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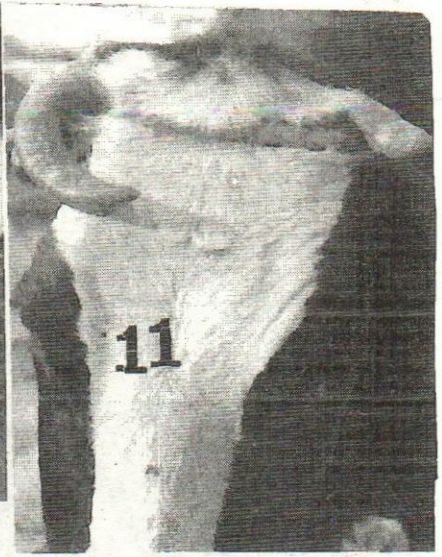
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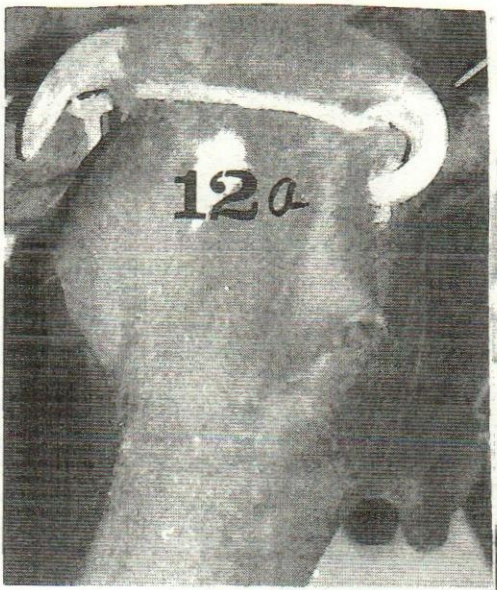
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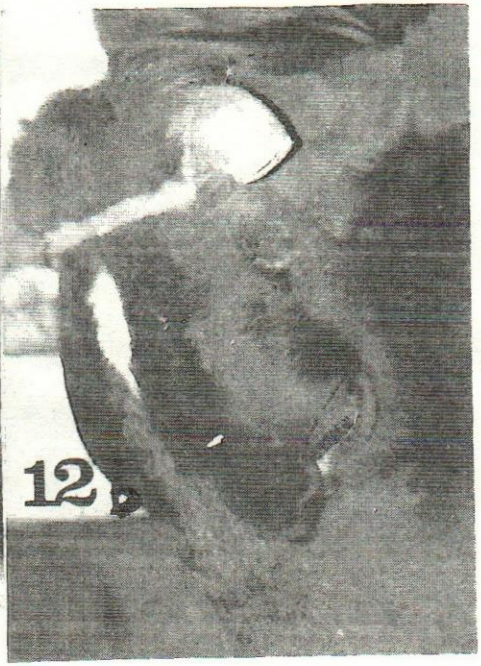
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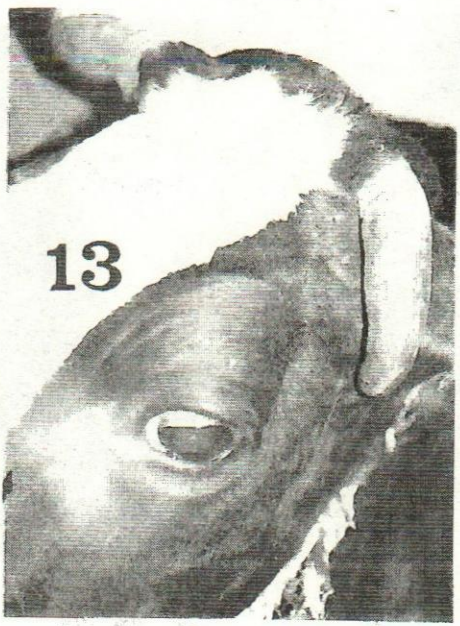
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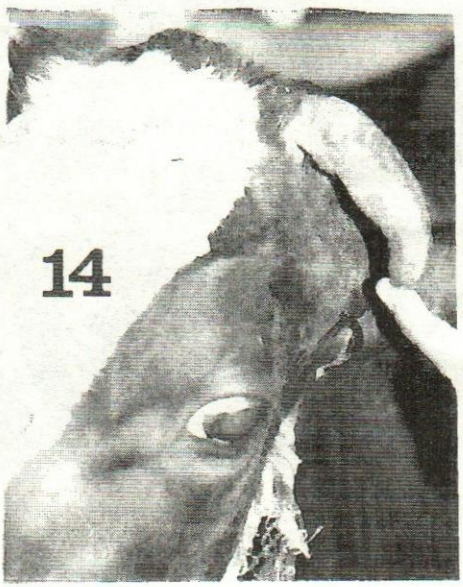
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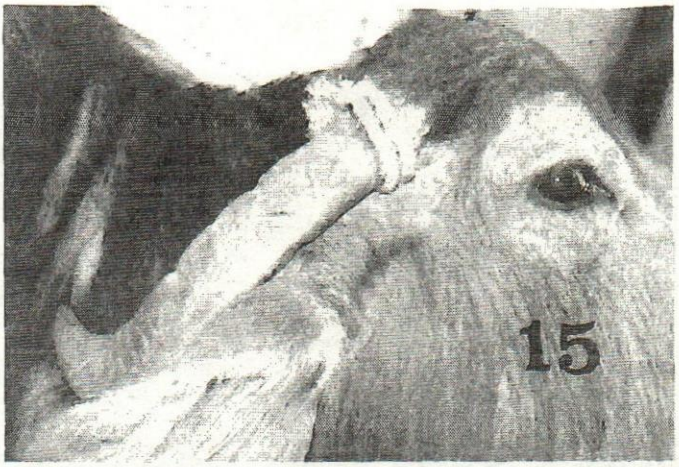
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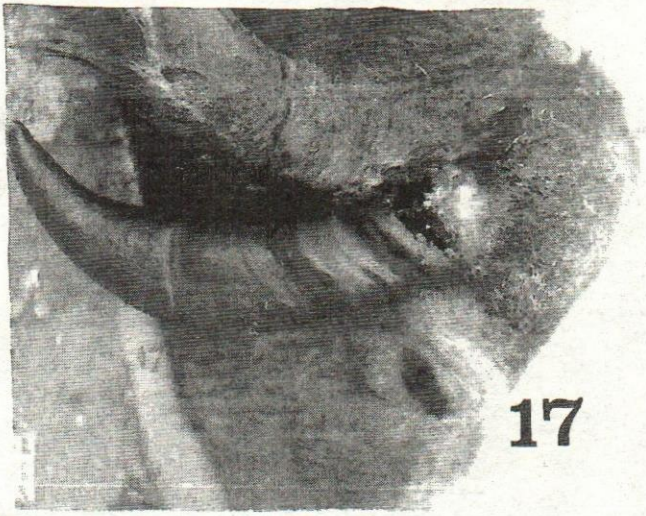
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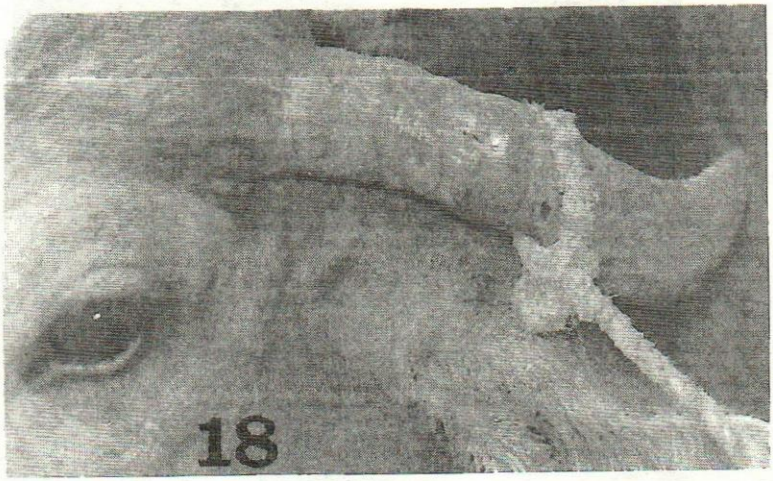
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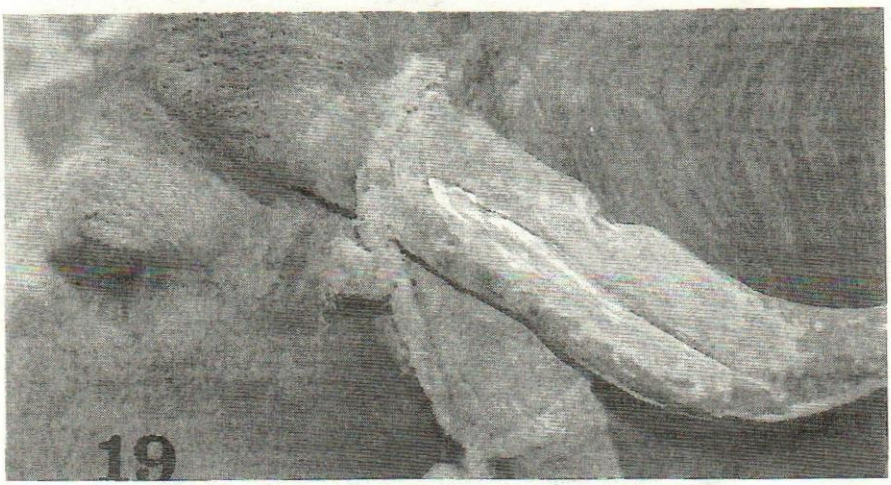
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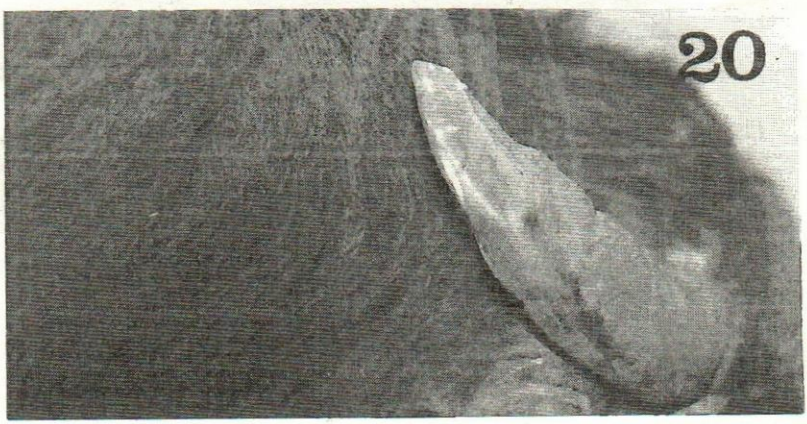
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