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**SOME PATTERNS OF SURGICAL AFFECTIONS OF THE
TEAT AND UDDER IN SHEEP AND GOATS**
(With One Table & 7 Fig.)

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بعض أشكال الإصابات الجراحية في الضرع والحلمة
في الأغنام والماعز

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حيث أن الأغنام والماعز تعتبر من مصادر إنتاج الألبان واللحوم في مصر لذلك أجريت هذه الدراسة في محافظة الاسكندرية للوصول الي أكثر الإصابات شيوعا ومحاولة علاجها بطرق العلاج المعروفة وكذلك علاجها جراحيا وكان من أهم هذه الإصابات الحلقات الزائدة ، انسداد الحلقات - تليف الضرع - الضرع المعلق - غرغرينا الضرع وكذلك سحجات في جلد الضرع .

SUMMARY

The incidence of the surgical affections of the teats and udder in sheep and goats in Alexandria Governorate was studied. Trials for treatment of these affections were done. The most common affections met with were, supernumerary teats, teat obstructions, contracted teat sphincter, pendulus udder, gangrenous udder, udder abrasions, udder fibrosis.

INTRODUCTION

The problem of ensuring an adequate and wholesome supply of milk is a matter which depends on many factors of which the udder and teat affections play an important role. The etiology of the different pathological affections of the udder and teat may be traumatic factors leading to congestion, cedema, haematoma, wounds, fistula, gangrene, snake bite, teat stenosis and obstruction; inflamatory, non infectious as urtecaria eczema, necrotic dermatitis, solar dermatitis, and infectious as bacterial, mycotic and fungus. Neoplastic growths and hereditary or congenital factors including supernumerary teats, physiological udder congestion and oedema, incontentia lactis and teat obstruction, (ARNOLD and WEBER, 1957; STEER, *et al.* 1960; SCHIPPER and PETERSON, 1969; SALEH and KHAMIS, 1971 and ISMAIL, 1990).

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The traumatic injuries of udder affections can be caused by jumping fences, barbed wire, animal bites, severe blows by blunt objects and animals horns which are more common in pendulus udder. The wounds of the udder can also be caused by stepping on the udder by other animals. (FLOWER, 1940; ARNOLD and WEBER, 1957; STAINSLAW, 1962 and FRANK, 1981).

These affections can be treated by opening of udder haematomas, suturing of recent wounds, freshening and suturing of old wounds, lacerated wounds, can be treated by mild antiseptic and sulphonamide or antibiotic power, (HOG BEG, 1927; HUDSON, 1928; HOFFMAN, 1951; ARNOLD and WEBER, 1957; and FRANK, 1981).

On the other hand, DYSTRA (1924), reported that gangrenous mastitis occurred frequently in cattle, and ewes due to bacillus of gangrene while FRANK (1947), isolated staphelocci, streptococci and coli as causes of udder gangrene, predisposing factors lowering the resistance were found to be bruising, dampness and chilling of tissues. The condition can be treated by udder amputation or amputation of the gangrenous teat, (DYSTRA, 1924; FRANK, 1947; HALL, 1947; SALEH and KHAMIS, 1971 and OMAR, 1973). At the same time SALEH and KHAMIS (1971), reported that the dry gagngrene without toxæmic signs: can be left to undergo spontaneous sloughing. Supernumerary teats can be surgically removed depending on their type and owner's requirments (ISMAIL, 1990).

The aim of this work is to study some of the surgical affections of the teats and udder in sheep and goats, in Alexandria Governorate, their incidence and some trials for their treatment.

MATERIAL and METHODS

In the present work 1500 ewes and 500 goats from the Governmental farms of Alexandria Governorate were examined for existance of the teat and udder affections. The examination included the detailed description of the clinical picture of the different affections in relation to size, inflamatory signs, lesions on the teat and udder and presence of supernumerary teats, as shown in table (1).

Table 1: Showing the number of the affected animals and types of affections.

Affection	Sheep (ewes)	Goats
Supernumerary teat	75	70
Pendulus udder	5	4
Gangrenous udder	-	1
Contracted teat sphincter (Hard Milker)	1	-
Fibrosed udder	1	1
Udder abrasions	3	2
Mastitic udder	2	-
Total	87	78

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The affected animals were treated from the different affections as follows:

- A) Local treatment of the different teat and udder affections according to the nature, duration, type of the inflammation and prognosis of the condition.

Regarding the teat with difficult milking leading to mastitis, the treatment was done using teat siphon followed by intramammary antibiotic infusion (Terramycin animal formula Pfizer).

Gangrenous teat was left for spontaneous sloughing which was enhanced by application of iodine ointment 2% and zinc oxide with cod liver oil to enhance granulation tissue formation after sloughing. Supernumerary teats were not surgically removed as they did not interfere with suckling due to the fact that most of them were functioning.

RESULTS

In the present work the teat and udder affections and abnormalities can be summarised as follows:

- (I) Supernumerary teats which were of high incidence in the examined goats (70) (14%) and in 75 ewes (5%). These supernumerary teats were of different types which can be differentiated according to their development into:
 - (1) Functional teats which were of 2 types:
 - a) Small in size than normal one having teat canal. (teat cistern) connected with the gland cistern of the normal gland. In this form there were teats of different origin either near the base of the normal teat or the teat appears to be bifurcated or V-shaped with 2 branches secreting milk (Fig. 1).
 - b) The udder is divided into 4 separated quarters each of them with separated teat, all of these quarters are secreting milk.
 - (2) Non functional teats which consist of conical elevation of the skin without canal or gland (hyperthelia) are present in front of the normal teat or may originate as small projection near the tip of the teat (Fig. 2).

It must be mentioned that the supernumerary teats were present mostly in front of the normal teats with exception or some which originated near the tip of the normal teat.
- (II) Pendulous udder in sheep and goats were met with in 5 ewes and 4 goats, where the udder was touching the ground, hindering the movement of the hind limbs of the animal, (Fig. 3).

(III) Gangrenous half of the udder (teat with its secretory part) in a 4 years old goat, (Fig. 4). The condition was traumatic in origin as a result of a neglected wound.

Clinically the gangrenous part appeared enlarged, dark grey in colour, with coolness and loss of sensation. The skin of the affected part was non elastic, hard and leathery taking the form of cap covering the underlying tissues. Line of demarcation was found between the healthy and unhealthy tissues. The whole tissues were affected, and sloughing of the affected teat took place as the condition was seen at its later stages where grey discolouration of the skin takes place, zinc oxide ointment with cod liver oil was used to enhance granulation tissue formation after sloughing.

(IV) Fibrosis of the udder following chronic mastitis was seen in a ewe. The udder was very hard to touch and swollen. The owner refused the surgical treatment (Fig. 5).

(V) Mastitic udder in a ewe 4 years old with a tip scab teat obstruction on the two teats, cleaning and moist softening with glycerine soaking, then milk was siphoned to empty the affected udder followed by antibiotic infusion and insertion of teat bougie. This treatment was repeated every 24 hours for 4 days (Fig. 5).

(VI) Contracted teat sphincter (Hard milker) the cause of the condition was a trauma to the tip of the teat. The case was treated by introduction of teat knife in the orifice and dividing of the sphincter in 2 places after ring block with procaine HCl 1% around, the base of the teat and then postoperative treatment using teat bougie to maintain the opening for 7 days. Milking is done using teat siphon then introduction of teat bougie (Fig. 7).

DISCUSSION

The present result indicated that the incidence of supernumerary teats in goats and sheep is considerably high 14% goats and 5% ewes higher in goats than ewe. The supernumerary (accessory) teats in sheep and goats are found mainly in front of the normal teats. This is in disagreement with that of TURNE (1952); WIENNER (1962); KHAMIS and SALEH (1970); MAKADY (1982) and ISMAIL (1990), who reported that the accessory teats were found caudally to the normal teats in cattle and intramammary type in buffaloes.

Our results also indicated that the No. of the accessory teats may be either one or two per animal while BILLINGS (1901), stated that the S.N.T. (accessory teats) may vary from one to five per animal in cattle. As the supernumerary teats did not interfere with suckling and as these were in Governmental farms their is no milking of these animals and according to the wish of the attendents these animals were not operated,

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the same was reported by OMAR (1973) who did not treat the S.N.Ts. due to the owner's requirements in buffaloes, while Ismail (1990) treated some of these non functional accessory teats surgically.

The pendulus udder in sheep and goats were of low incidence these cases were not treated. Gangrenous teat (half) was clinically similar to those mentioned by WHILE, *et al.* (1959) in cattle and SALEH and KHAMIS (1971) in buffaloes. The direct cause of the teat gangrene is almost interference with blood circulation of the cutaneous vessels of the udder and teats WHILE, *et al.* (1959). Also it may be caused by vascular spasms which occurs in the superficial arteriols of the udder as a result of cold wet environmental condition. If this spasm persisted for long period, local thrombus formation occur and result in necrosis and gangrene (DANIEL, 1970). The condition was given the chance for sloughing spontaneously as there was no toxæmic signs and the condition was dried only zinc oxide ointment and cod liver oil were used to help in sloughing.

The mastitic udder which resulted from tip scab obstruction was treated by moist softening with glycerine and soothing emolient then followed by antibiotic infusion every 2 hours until inflammation subsided after 7 days. Teat bougie was left in the teat daily after the antibiotic treatment this agreed with that of ARNOLD and WEBER (1957) and OMAR (1973).

Udder abrasions were treated with emolient (glycerine) and emolient ointments (zinc oxide in glycerine). Treatment of abrasions with these ointments gave good results and healing was obtained within 1-3 weeks. These results coincide with those reported by OMAR (1973). The same good results were obtained during treatment of contracted sphincter by surgical interference as stated by OMAR (1973) and FRANK (1982).

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LEGENDS TO ILLUSTRATIONS

Fig. 1: Showing non functional supernumerary teats in a ewe.

Fig. 2: Showing teat which is divided in V- shaped at its tip the two branches of the teat are functional.

Fig. 3: Showing pendulus udder in 5 years old goat.

Fig. 4: Gangrenous mastitis in a 4 years old goat.

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Fig. 5: Mastitic udder with teat filled with milk in 4 years old ewe.

Fig. 6: Imperforated teat orifice (hard milker) in 3 years old ewe.

Fig. 7: Showing udder abrasions in a ewe.



