SURVEY ON SURGICAL AFFECTIONS OF UDDER AND TEATS IN SMALL RUMINANTS IN ISMAILIA AND NORTH SINAI GOVERNORATES.

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ABSTRACT

Survey was carried out on 3965 small ruminants of 1672 ewes and 2293 goats through four years in Ismailia and North Sinai Governorates. The aim of this study was detection the most prevalent surgical udder and teat affections and abnormalities, their incidence, causes, evaluation of different methods of treatments and to claim advices for preventive measures. The clinically affected cases were subjected to, case history, clinical, ultrasonographical and histopathological examinations. The incidence of udder and teat affections in ewes was found to be 35.9% (16.09% acquired and 22.85% were congenital and 2.9% were acquired and congenital in the same affected cases), while in does the incidence was 65.9% (41.82% acquired, 59% congenital and 34.98% were acquired and congenital in the same affected cases). Trauma was the main cause of most udder and teats' affections. The treatment was graduated from medical treatment and to surgical interference. El-Shamy breed which represented in Sinai is more preferred than native breed in low udder and teats affections and abnormalities. Ultrasonography has been a useful adjunct to diagnose the mammary gland and teat affection's diagnosis.

INTRODUCTION

Teat affections always lead to economic loss in milk yield, loss in antibiotics-treated milk, possible loss of quarter if there is a necessity to dry off, and finally reflected on the economic value of the dairy animals, hence better knowledge on teat affections and abnormalities is found to be highly needed (Mahdy, 1998).

Ultrasound mammography in the lactating ewe and its correspondence to anatomical section was applied by Ruberte, et al. (1994). They not detected any special restrains or using any
tranquilizers. They showed that the frequency of the transducer was 5MHZ and the exploration depth was fixed between 8 and 14 cm.

Ultrasonography was a good tool for evaluating mammary glands from any pathologic lesions like chronic fibrotic mastitis, mural abscess, indirect parenchymatous haematoma, milk pouch condition, hypomastia and function or non-function supernumerary teat even dry or lactating season (Auther, 1998; Reef, 1998 and Franz, et al., 2003).

We postulate that teat lesions can be predisposing factor to mastitis, by adversely affecting defences and speeding the process of infection and making it more severe (Mavrogianni, et al., 2006).

Therefore the aim of this work is to evaluate the most prevalent abnormalities and surgical udder and teats affections in small ruminant in Ismailia and North Sinai governarates with special emphasis on the incidence, causes, evaluation of the different methods of treatment. Finally to claim advises which keep sound udder and teats in small ruminant.

MATERIALS & METHODS

This work was performed on 3965 small ruminants (1672 ewes and 2293 goats) in Ismailia and North Sinai Governorates. The animals were collected from different farms belonged to Suez Canal University (Faculty of Veterinary Medicine, Faculty of Agriculture in Ismailia and Faculty of Environmental and Agricultural Science in El Aresh) In addition to private & sporadic farmer farms. The animal’s ages ranged from (1-5) years, lambing or kidding between (1- 4) times. These animals were housed in semiopened houses specially the animals which housed in farms. Other animals were housed in open yards surrounded by fences formed from wires or ropes nets beside dry trees especially in summer but in winter they housed in closed pens constructed from dry mud. Animals were fed on open green pastures or green grasses in winter and hay in summer.

These animals were carefully examined for detection of different udder and teats problems and abnormalities, either acquired or congenital affections during dry and milking periods. Sonographical and Histopathological examinations were performed in some cases for diagnosis or to confirm our diagnosis. Medical and /or surgical interference were applied in most cases according to the nature of the affection and the permission of the animal’s owner.

Histopathological examination:

Specimens taken from udder or teats were fixed in 10 % neutral buffered formalin, thoroughly washed in
tap water, dehydrated in serial ascending grades of ethyl alcohol and cleared in zylol. Tissue specimens were then embedded in paraffin wax, sectioned and stained with hematoxylin and eosin according to Bancroft and Cook (1984).

Sonographic examinations:

Sonographic examination was performed in ultrasonographic unit of the Centeral Lab for Medical and Veterinary Medical Services, Suez Canal University. Using Acuson (Acuson Corporation, 1220 Charleston Road, Mountain view, California.) Computed colored doppler 128x p/5 ultrasonic machine. The normal angle of beam was 90. Ultrasonographic images and photographed on high quality printing paper (UPP-110s type 1 “noma” 110 mm x 20 m sony Japan). The transducer of 5-10 MHZ as well as the area of the mammary tissue to be examined was smeared with aqueous gel (ultrasound transmission gel) as a coupling agent for proper contrast between the transducer and the examined area.

Medical treatment:

The different superficial udder and teat affections as erosions, abrasions, tip wound and thelitis were locally treated including:

washing the udder and affected teat with distilled water for removing of debris, dirt and inflammatory discharges, then washed with mild antiseptic solution Betadine (povidone-iodine U.S.P 10 % W/V. Betaderm 20 gm, EL NILE -Co.). Topical application of antibiotic (Tetracycline HCL 3 %: as Oxytetracycline HCL (pFizer Egypt Ph. Co.) and anti-inflammatory Betaderm (as valorate (E.I.P.I.Co. 10th of Ramadan City A.R.E).) ointments according to the nature, duration and type of the affection was applied. Daily dressing was obtained until complete recovery. Treatment of skin dermatitis due to mycotic infection was done by antmycotic ointement Canesten (Canesten: (Alexandria Pharmaceutical Co. - Alexandria Egypt) after removing crusts of the affected parts twice daily. The scab of the ulcer was gently removed after softening by mild antiseptic solution. Necrotic tissue was curetted and freshened with scalpel, then application of antiseptic and local anti-inflammatory once daily in addition to the drugs which assist the healing ( panthenol ointment Panthenol: (The NILE Co. for Pharmaceutical and Chemical Industries N.C.P.- Cairo, A.R.E.) Haematoma of udder parenchyma was treated using intramammary infusion of antibiotic (Mastilex Mastilex: syringe of 10 ml contains [Cephalexin (monohydrate 350 mg) and Gentamicin (sulphate 35 mg) stable and lactic dispersible excipient.q.s. industrial veterinaria, S. A. (INVESA) Esplugues de Liabregat-
Spain) after gentle evacuation of the affected half bloody milk and repeat this step three successive days. Systemic antibiotic was injected once per day to overcome the general health disturbance. Abscess treatment was performed routinely. The cases of edema were treated using local cold water application with gentle evacuation of the mammary content in addition to diuretic Edemex (Edemex: ampoule each one ml contains BUMETANIDE 0.25 mg (Memphis Co. for Pharm. & Chemical Ind. Cairo - A.R.E.). I/M injection 1ml /animal /day beside moderate exercise until the condition subsided.

**Surgical treatment:**

**Preparation and anaesthetization of the affected udder or teats:**

The animal should be adequately restrained in lateral recumbancy, I/M injection of light tranquilizer if necessary, using Xylazine (Xylaject, ADWIA.) 0.15 mg/Kgm.

**In udder affections:** Local infiltration analgesia of Xylocaine Hydrochloride (Xylocaine Hydrochloride: El-Nasr pharm. Chemicals Co. for Al-Debeiky pharma.) 2 % was injected into subcutaneous and muscular layers around the lesion. In case of mastectomy, lumbo-sacral epidural regional analgesia was applied using 4 ml of Xylocaine Hydrochloride 2 % injected at lumbo-sacral space.

**In teat affections:** Elastic tourniquet was placed around the base of the affected teat to provide hemostasis during surgery. Ring block infiltration analgesia with "3-5" ml of Xylocaine Hydrochloride 2% (without epinephrine) was injected subcutaneous and intramuscular layers around the teat base. About "2-3" ml Xylocain hydrochloride, was infused into teat to desensitize the lining mucosa Hall, et al. (2001). The wound edges were cleaned and refreshed. Devitalized tissues were removed then a mild anti-septic solution (Potassium permanganate 1/1000) applied. Sterile plastic cannula was inserted inside the teat canal before suturing. The old non penetrating injuries of the teat edges were left unsutured and treated locally. Surgical interference included open teat cistern, total mastectomy and teat end aplasia.

**Post operative care:**

In case of mucosal affections, siphoning of milk was performed and insertion of teat cannula with milk stopper till recovery occurred. Antibiotic intramammary infusion for 3-5 successive days was applied. An adhesive elastic water proof bandage on the operated teat was applied. Antititanic serum (1500 I.U. El Hia El Masria of biological preparations and serums.) 1500 I.U was injected as prophylaxis S/C once. Dressing every
other day was achieved, removing of stitches after (10-14) days, also claw trimming was essential.

RESULTS

The survey of this study in Ismailia and Sinai Governorates revealed among 3965 examined animals for udder and teats affection (1672 ewes and 2293 does). The 2162 cases which had different udder and teat affections were (54.53%). Ewe's udder and teat affections were recorded in 601 cases (35.94%); [269 of which were acquired (16.09%); 382 were congenital anomalies (22.85%) and 50 (2.99 %) were acquired and congenital in the same cases]. The cases of doe was 1511 cases (65.90 %); [959 of which were acquired (47.49%), 1265 were congenital anomalies (66.83 %) and 802 cases (42.37 %) were acquired and congenital] while in 400 El-Shamy does were confined to 149 cases (37.25 %), [60 which were acquired (15 %) and 89 were congenital anomalies (22.25 %)]. El-Shamy does were differing than native does by highest body.

Supernumerary teats:-

The functioning supernumerary teats were examined sonographically which revealed doubled gland cisterns (Fig. 1 & 2). Non-functioning supernumerary teats were examined sonographically (Fig. 3 & 4). All cases had congenital anomalies recorded in the present study discarded from breeding.

Perforated teat wounds (opened teat cistern):-

The neglected cases without surgery even in dry season showed granulation tissue and severe stenotic or “block” teat canal (Fig. 5 & 6).
Table (1): The incidence of udder and teats congenital affections in ewes and does in Ismailia and North Sinai Governorates.

<table>
<thead>
<tr>
<th>Animal Affections</th>
<th>Ewe</th>
<th></th>
<th>Doe</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1- Udder hypomastia</td>
<td>8</td>
<td>2.09</td>
<td>20</td>
<td>1.47</td>
</tr>
<tr>
<td>2- Asymmetrical halves</td>
<td>21</td>
<td>5.49</td>
<td>254</td>
<td>18.75</td>
</tr>
<tr>
<td>3- Pendulous udder</td>
<td>-</td>
<td>-</td>
<td>134</td>
<td>9.89</td>
</tr>
<tr>
<td>4- Pouched udder</td>
<td>43</td>
<td>11.25</td>
<td>104</td>
<td>7.68</td>
</tr>
<tr>
<td>5- Deep intramammary groove</td>
<td>-</td>
<td>-</td>
<td>124</td>
<td>9.15</td>
</tr>
<tr>
<td><strong>Total udder congenital affections</strong></td>
<td>72</td>
<td>18.83</td>
<td>636</td>
<td>46.94</td>
</tr>
<tr>
<td>1- Buffalo teat</td>
<td>30</td>
<td>7.85</td>
<td>113</td>
<td>8.34</td>
</tr>
<tr>
<td>2- Abnormal teat site</td>
<td>19</td>
<td>4.97</td>
<td>84</td>
<td>6.20</td>
</tr>
<tr>
<td>3- Too long teat</td>
<td>6</td>
<td>1.57</td>
<td>11</td>
<td>0.81</td>
</tr>
<tr>
<td>4- Too short teat</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.07</td>
</tr>
<tr>
<td>5- Teat end aplasia</td>
<td>248</td>
<td>64.92</td>
<td>416</td>
<td>30.72</td>
</tr>
<tr>
<td>a- Functional type</td>
<td>120</td>
<td>31.41</td>
<td>176</td>
<td>12.99</td>
</tr>
<tr>
<td>b- Non-functional type</td>
<td>128</td>
<td>33.51</td>
<td>240</td>
<td>17.73</td>
</tr>
<tr>
<td><strong>Total teat congenital affections</strong></td>
<td>310</td>
<td>81.14</td>
<td>718</td>
<td>53</td>
</tr>
</tbody>
</table>

**Mastitis:**

The acute clinical mastitis showed swelling, worm, painful and tenderness udder (Fig. 7). Other clinical signs were observed such as depression, inappitance and fever. Lamenes and decreased milk production were recorded with hard mammary gland, also milk secretion became watery. The chronic form of mastitis showed hard swelling of the udder without signs of hotness or painful (Fig. 8). The milk yield was markedly decreased.

Ultrasonographic examination of some chronic mastitic cases showing bad prognosis mastitis in does (Fig. 9) while of other chronic mastitic cases showing good prognosis mastitis in does (Fig. 10). The supramammary lymph node was appeared large kidney shape (Fig. 11), while the neglected cases revealed very small hyperechoic area of supramammary lymph node (Fig. 12). In good prognosis cases, good result was obtained after (3-5) successive days of treatment.

**Udder haematoma:**

Sonographic examination of parenchymatous haematoma, showed in
(Fig. 13). The siphoning of milk, intramammary antibiotics infusion and systemic broad spectrum antibiotic in cases of udder haematoma gave good results.

Table (2): The incidence of udder and teats acquired affections in ewes and does in Ismailia and North Sinai Governorates.

<table>
<thead>
<tr>
<th>Animal Affections</th>
<th>Ewe</th>
<th>%</th>
<th>Doe</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Udder wounds</td>
<td>36</td>
<td>2.15</td>
<td>168</td>
<td>7.32</td>
</tr>
<tr>
<td>a- Abrasion</td>
<td>25</td>
<td>1.49</td>
<td>87</td>
<td>3.79</td>
</tr>
<tr>
<td>b- Ulcerated</td>
<td>9</td>
<td>0.54</td>
<td>66</td>
<td>2.88</td>
</tr>
<tr>
<td>c- Lacerated</td>
<td>2</td>
<td>0.12</td>
<td>15</td>
<td>0.65</td>
</tr>
<tr>
<td>2- Mastitis</td>
<td>16</td>
<td>0.95</td>
<td>120</td>
<td>5.23</td>
</tr>
<tr>
<td>3- Udder fibrosis</td>
<td>43</td>
<td>2.57</td>
<td>155</td>
<td>6.75</td>
</tr>
<tr>
<td>4- Udder gangrene</td>
<td>2</td>
<td>0.11</td>
<td>6</td>
<td>0.26</td>
</tr>
<tr>
<td>5- Udder abscesses</td>
<td>45</td>
<td>2.69</td>
<td>75</td>
<td>3.27</td>
</tr>
<tr>
<td>6- Skin dermatitis</td>
<td>19</td>
<td>1.13</td>
<td>85</td>
<td>3.70</td>
</tr>
<tr>
<td>7- Udder haematoma</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.04</td>
</tr>
<tr>
<td>8- Udder edema</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.08</td>
</tr>
<tr>
<td>9- Udder papiloma</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>Total acquired udder affections</strong></td>
<td><strong>161</strong></td>
<td><strong>9.6</strong></td>
<td><strong>614</strong></td>
<td><strong>26.73</strong></td>
</tr>
<tr>
<td>1- Teat wounds</td>
<td>62</td>
<td>3.72</td>
<td>199</td>
<td>8.47</td>
</tr>
<tr>
<td>a- Abrasion</td>
<td>21</td>
<td>1.26</td>
<td>81</td>
<td>3.53</td>
</tr>
<tr>
<td>b- Ulcerated</td>
<td>14</td>
<td>0.84</td>
<td>29</td>
<td>1.26</td>
</tr>
<tr>
<td>c- perforated</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>0.17</td>
</tr>
<tr>
<td>d- Lacerated</td>
<td>3</td>
<td>0.18</td>
<td>5</td>
<td>0.22</td>
</tr>
<tr>
<td>e- Tip wound</td>
<td>24</td>
<td>1.44</td>
<td>80</td>
<td>3.29</td>
</tr>
<tr>
<td>2- Thelitis</td>
<td>17</td>
<td>1</td>
<td>37</td>
<td>1.6</td>
</tr>
<tr>
<td>3- Contracted teat</td>
<td>8</td>
<td>0.47</td>
<td>27</td>
<td>1.18</td>
</tr>
<tr>
<td>4- Teat fibrosis</td>
<td>13</td>
<td>0.77</td>
<td>52</td>
<td>2.3</td>
</tr>
<tr>
<td>5- Teat gangrene</td>
<td>1</td>
<td>0.05</td>
<td>3</td>
<td>0.13</td>
</tr>
<tr>
<td>6- Teat abscess</td>
<td>3</td>
<td>0.17</td>
<td>11</td>
<td>0.48</td>
</tr>
<tr>
<td>7- Teat papiloma</td>
<td>4</td>
<td>0.25</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total acquired teat affections</strong></td>
<td><strong>108</strong></td>
<td><strong>6.43</strong></td>
<td><strong>329</strong></td>
<td><strong>14.16</strong></td>
</tr>
</tbody>
</table>

**Udder abscesses:**

These lesions were examined sonographically appeared in (Fig. 14). Cases of multiple abscesses were totally mastectomized.

**Udder gangrene:**

Clinically the gangrenous part appeared enlarged, dark gray in color, cold and loss of sensation all over the skin. The skin of the affected part was non elastic, hard and leathery (tacking form of cap covering the underlying tissues). The interpretation of ultrasound appeared in (Fig. 15, 16 & 17).
Histopathological finding revealed that the main cause of gangrene was the arterial thrombus with injured tunica intima (Fig. 18, 19 & 20).

Mastectomy of the affected mammary gland was the only treatment of the cases especially later stages.

**Physiological udder edema:**

These cases of edema as showing in (Fig. 21) were examined ultrasonographically (Fig. 22) and the supramammary lymph node appeared in (Fig. 23). The wide area large anechoic with little irregular “hypo/an” echoic milk as more edematous fluid infiltration all over mammary tissue were found especially mammary acini which press on the parenchyma (Fig. 24). Moderate exercise improved the blood circulation of the edematous udder and diuretics improved these cases within one week.

**Fig. (1)**: A doe showing, functioning supernumerary teats found infront to normal teat (1).

**Fig. (2)**: Junction between normal and supernumerary teat in doe showing: hypo to anechoic large areas at left and right of picture containing milk separated with hypo to hyperechoic irregular band in between (S & M).

**Fig. (3)**: A doe showing non-functioning supernumerary teats (1).

**Fig. (4)**: Non-functioning supernumerary teat showing: hypoechoic thick area at top of picture without anechoic areas indicating no teat canal and no active parenchyma.
Fig. (5): A doe show teat obstruction and the udder cistern filled with milk.

Fig. (6): Show hypoechoic area and hyperechoic area at top to right of picture (t.f) indicating complete teat fibrosis.

Fig. (7): A doe showing acute mastitis.

Fig. (8): A doe show chronic bilateral mastitis.
Fig. (9) : Bad prognosis mastitis in a doe showing hyperechoic area of all picture indicating severe fibrosis with calcification.

Fig. (10) : Good prognosis mastitis in early suckled doe showing hypoechoic area of most picture with little hyperechoic area at center and left of picture indicating active parenchyma with little fibrosis. Small hypo to anechoic areas occurred at top to right of picture indicating residual milk.

Fig. (11) : Garded prognosis mastitic half's supramammary lymph node showing kidney shape hypoechoic area of lymph parenchyma surrounded by thick hyperechoic capsule of (2.36 x 4.86) cm with multi-anechoic round areas at top and right of picture as blood vessels indicating inflammation.

Fig. (12) : Bad prognosis mastitic half's supramammary lymph node was showing hyperechoic small area at center and top of picture indicating complete
fibrosed L.N as neglected chronic mastitis.

**Fig. (13)**: Mammary mass showing: hypo to hyperechoic patches at left, bottom and center of picture as mass without outer capsule. The size of that soft tissue mass (STM) as circum 9.37 mm and area 476.6 mm² the mass was thick toward udder base and pointed toward teat base indicating parenchymatous infected haematoma.

**Fig. (14)**: Udder's swelling showing, more hypo to little anechoic areas in all picture which divided by hypo to hyperechoic septae and all surrounded by hyperechoic to hypoechoic with little anechoic areas indicating connective tissue capsule all around cavity of no blood content and the capsule containing little blood vessels indicating chronic capsulation.

**Fig. (15)**: A doe with pendulous udder with gangrenous part of non-elastic leathery cap like skin over the affected area.

**Fig. (16)**: Gangrenous mastitis showing, anechoic vascular areas of venal dilatation
which normally unfound indicating blocked venal drainage and parenchyma has more anechoic fluid areas due to high fluid content indicating moist type.

**Fig. (17)**: Gangrenous part showing, at center of picture large area of hypo to anechoice indicating more debris of inflammatory exudate with thick skin dermatitis and focal area of hyperechoic indicating fibrosis. The wall of mammary gland was thick with hypo to anechoic interdigitated as more interstitial fluid increase.

**Fig. (18)**: Artery from udder of a doe suffering from gangrenous mastitis showing, thrombus. Notice the injured tunica intema together with adhesion of the thrombotic mass. H&E. x 400.

**Fig. (19)**: Doe had gangrenous mastitis (loss of tissue architecture and cellular details). The stratum corium is lost and the stratum spinosum is necrotic. H&E x 100.

**Fig. (20)**: Udder of the doe suffering from gangrenous mastitis showing, loss of cellular details and tissue architecture, presence of air bubbles. The line of demarcation consists of neutrophils and fibroblasts. H&E. x250.
**Fig. (21)**: A doe showing post parturient udder physiological edema. Notice the right side of the udder has hypomastia.

**Fig. (22)**: Teat wall tissue infiltrated parenchyma leading to closed teat canal by compressing the two mucosal lining which appeared hyperchoic thick line at center of picture.

**Fig. (23)**: Hyperechoic lymph mass indicating chronic inflammed lymphadenitis by distances (1.1 X 2.82) cm.

**Fig. (24)**: Edematous doe's mammary gland showing wide area of anechoic with little irregular hypo to anechoic area of milk containing more edematous fluid infiltrated all over mammary tissue specially acini.
DISCUSSION

The prevalence of udder and teat affections in ewes and does becomes higher in March, April, May and August at which the weather is favorable, and the animal is more active and laying in recumbent position exposing its udder and teats to tread injuries. These results agree with the results by Mahdy (1998). Untrimmed claws were found to be the cause of udder and teats abrasions especially in pendulous and big udder. This result coincides with Soliman (1988) and Mahdy (1998).

The perforated teat wounds met with in this work were treated successfully by suturing after dissection of the organized lining tissue. Two rows of sutures were applied while the mucosa was lefted without suturing. Similar procedure was adopted by Weaver (1986) and Mahdy (1998). While Yamada, et al. (1991) mentioned that, in cows the mucosa can be sutured without any complication.

Our results were in agreement with Weaver (1986) and Mahdy (1998), who mentioned that, milk must be siphoned three times daily followed by self retaining teat bougie to prevent the milk pressure on the suture line which irritates the tissue and prevent healing. On the other hands full-thickness lacerations of the teat were left without suture and healing by second intention was obtained. The fibrous tissue proliferation was confirmed by sonographic examination lead to stenosis of healed teat canal. This result was in line with Gaymer, et al. (1984); and Makady; et al. (1991).

In the present study, adverse weather increased the incidence of skin lesion (chapped udder and teats) and there were relation ship between cold weather, chapped udder and teats intramammary infection. The same results reported by Fox and HanCock (1989); Fox, et al. (1991) and Mavrogianni and Fthenakis, (2007).

Nodulation and fibrous formation of chronic mastitic udder were noticed in most chronic cases. These cases did not respond to local therapies which confirmed by ultrasonographic examinations. This result coincides with El-Mezayen (1994).

Ultrasonographic examination of cases suffered from chronic mastitis
revealed that increase area of interstitial tissue and reducing area of alveoli. A finding was agreed with that mentioned by Aly and Nafody (1995) and Abd El-Bary (2000).

Treatment of udder edema by a moderate exercise and diuretic drugs was helpful in improving the blood circulation and reducing the severity of udder edema. These results coincide with Mahdy (1998).

The recommended treatment in cases of severe gangrenous mastitis was mastectomy which improved animal health condition. These results agree with El – Mezayen (1994); Hull (1995) and Youssef (1999).

In the present study, supernumerary teats were represented 65 % in ewes and 30.7 % in does of total congenital anomalies as common congenital anomalies. On the other hand Bristol (1989) and Nouh (1991) mentioned that, supernumerary teats were 18.14 % in does and 14.83 % in ewes higher in does than ewes of total examined animals.

It could be concluded that, El-Shamy breed which represented in Sinai is more preferred than native breed due to its lower mammary gland affections and anomalies. Care should be taken for the claw affections and its trimming, dehorning, avoid over crowding and dirty pens. Ultrasonography has been a useful adjunct to physical examination of the mammary gland and teat affection's diagnosis.

Acknowledgement: Specially thanks to Dr. S. Shoker Prof. of Veterinary Anatomy, Fac. of Vet. Med., Suez Canal University, for his help in the ultrasonographic examination.

REFERENCE


**الملخص العربي**

مسح للأصابات الجراحية للضرع و الحلمات في المجترات الصغيرة بالإسماعيلية وسيناء.

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تم عمل مسح عن الإصابات الجراحية للضرع و الحلمات خلال فترة أربع سنوات علي 3965 أنثى من المجترات الصغيرة منها 1672 نعجة و عدد 2293 أنثى الماعز في محافظتي الإسماعيلية و شمال سيناء. وكان الهدف من البحث هو دراسة الإصابات الجراحية للضرع و الحلمات وكذلك العيوب الوراثية من حيث تحديد نسبتها، أسبابها، تقييم طرق ووسائل العلاج المختلفة وتحديد سبل الوقاية منها.

تم إضحاع الحالات المصابية للتاريخ المرضي و للفحص الإكلينيكي و استخدام الموجات فوق الصوتية و أخذ عينات للفحص الهستوalogي. كانت نسبة الحالات المصابية في النعجة 45.9% منها إصابة مكتسبة و 22.8% وراثية بالإضافة إلى 20% من الحالات بها إصابات مكتسبة و أخرى وراثية. أما بالنسبة لإناث الماعز فقد كانت النسبة 65.9% [628/41%] منها إصابة مكتسبة و 59% وراثية بالإضافة إلى 48.0% من الحالات بها إصابات مكتسبة و أخرى وراثية. تدرج العلاج من العلاج الطبي إلى التدخل الجراحي. كانت الماعز الشامية المنتشرة في شمال سيناء أفضل من الماعز المحلية في قلة الإصابات الوراثية والمكتسبة. كما كان لاستخدام الموجات فوق صوتية الأثر الكبير في دقة التشخيص لإصابات الضرع و الحلمات.