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ABNORMALITIES OF THE DEWCLAWS IN COWS; BUFFALOES; SHEEP AND GOATS

(With 3 Tables and 25 Figures)

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بعض الشذوذات فى أظلاف الندى فى الإبقار والجاموس والأغنام والماعز

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لوحظت النموات الزائدة وشذوذات النمو فى أظلاف الندى فى عدد ٢٠١ جاموسه من ٤٣٧ واحده، ١٢٧ بقره من ٣٧٨ واحده، ١٤٥ أغنام من ٥٧٢، ٩٨ معاز من ٤١٨ واحده وتم تسجيل الشذوذات الآتية: ١- أظلاف الندى المنبعجه ٢- أظلاف الندى المتوازية مع بعض الى الناحيه الوحشية أو الانسيه ٣- اظلاف الندى على شكل حرف (L) أو حرف (L) مقلوبه ٤- النمو المفرط فى اظلاف الندى ٥- أظلاف الندى المتجه الى الخارج أو الى الداخل ٦- أظلاف الندى الشبيهه بالخطاف. ولقد لوحظت أظلاف الندى المتكلسه فى الجاموس فقط ولوحظت أظلاف الندى شبيه الاجنحه فى الأغنام والماعز بينما تبين ظهور أظلاف الندى الزائده فى العدد فى الإبقار والجاموس والأغنام ولم تلاحظ فى الماعز. وغالبا ما تصاحب شذوذات أظلاف الندى شذوذات فى الأظلاف الرئيسية. وتلاحظ زيادة فى نسبة إصابة الأظلاف فى المزارع الحكومية عن المزارع الخاصة وذلك بسبب اهمال العمال الحكوميين فى تنظيف الأظلاف وما بينهما بالإضافة الى اهمالهم فى استدعاء البيطار لتقليم الأظلاف المفرطه فى النمو. وقد لوحظ زيادة فى شذوذات الأظلاف البيضاء وذات اللون الفاتح عنها فى الأظلاف ذات اللون الداكن أو اللون الاسود.

SUMMARY

Dew claw abnormalities and overgrowths were detected in 201 buffaloes out of 437 ones, in 127 cattle out of 378, in 145 sheep out of 572 & in 98 goats out of 418 ones. The following abnormalities were observed: 1- Diverging dew claws. 2- Laterally and medially parallel dew claws. 3- L-shaped and inverted L shape. 4- Hyperplastic. 5- Curved out and curved in. 6- Hook like. Calcified dew claws were noticed only in buffaloes, wing like

dew claws were only found in sheep and goats, while supranumerary dew claws were observed in all species except goats. The majority of these abnormalities were accompanied by abnormalities in the main claws. In governmental farms the percentage of these abnormalities was higher than those in private farms and in animals belonging to individual farms, because the attendants in the governmental farms neglect to pick out the dirt in between the claws and dew claws and are not keen to call for periodical trimming of the claws. It is of importance to notice that dew claw abnormalities were more prevalent in white and pale coloured claws than in dark and black coloured ones.

Key words: *Cows-Buffaloes- Sheep- Goats- Dewclaws- Abnormalities.*

INTRODUCTION

Dew claw abnormalities and overgrowths are very common in cattle, buffaloes sheep and goats. Elongation of these claws may be so great that they may reach the ground resulting in injury and inability to walk properly. Moreover overgrowth of these claws may result in turning of the dew claw towards the opposite limb leading to its injury.

Abnormalities of these claws run parallel to abnormalities and overgrowths of the main claws in most cases I.e they are mostly found together. The aim of the present study is to register the more common overgrowths and abnormalities in the dew claws of buffaloes, cattle, sheep and goats in upper Egypt, the complications encountered following these overgrowths and lastly the methods adopted to prevent and correct these cases.

Flourentin (1963) mentioned that light coloured claws suffer from claw abnormalities more than dark pigmented ones.

Vienna (1968) enumerated nine types of foot diseases in ruminants among which was the digital hypoplasia and the deformed claws. Bouckart *et al* (1958), Prentice (1973), Greenough *et al* (1972), Greemough (1982) and O'connor (1982) stated that claw deformities are mostly a cause of lameness. Greenough *et al* (1972) stated that there is a degree of congenital predisposition to some claw deformities.

Littlejohn (1972) recorded a case of severe keratinization of the interdigital space in cattle where the cow was suffering from a long standing foot rot. Metaggart *et al* (1974) described red foot disease in lambs and

stated that the horn of the accessory digits was lost in some cases, and replaced by irregular keratinized layer deficient in pigmentation.

Soliman *et al* (1982) described the pathological findings of foot rot in sheep and stated that fibrosis of the skin and subcutaneous tissues together with hyalinization of the fibrosed parts and hyperkeratosis usually take place. Khamis *et al* (1984) stated that overgrown claws is predominant in cattle.

MATERIAL and METHODS

A number of 437 buffaloes, 378 cattle, 572 sheep and 418 goats from different localities in Assiut province namely governmental and private farms, the agriculture faculty farm, the Veterinary faculty clinic and some animal health centers were inspected. Dew claw abnormalities and overgrowths were detected in 201 buffaloes (191 female and 10 males), in 127 cattle (114 cows & 13 bull), in 145 sheep (123 female & 21 male) and in 98 goats (86 female and 12 male). All these cases were subjected to through inspection and description.

All the abovementioned buffaloes and cows ranged in age from 2-14 years. While sheep and goats ranged from 2-6 years, Correction of these overgrowths and abnormalities was performed by the claw cutter following immersing the affected claws in a shallow dip of water for 6-12 hours to moisten the hard horn. 15 minutes before trimming dew claws of buffaloes Rompun (Bayer) in a dose rate of 0.1 mg/kg body weight was given intramuscularly.

RESULTS and DISCUSSION

Dew claw abnormalities and overgrowths were detected in a comparatively high number of buffaloes, cows, sheep and goats. The following abnormalities were observed, diverging dew claws (Fig. 10, 17, 19), laterally or medially parallel to each other (Fig. 6, 17, 18) L-shaped inverted L shape (Fig. 2, 3, 22, 24, 25) hype plastic (Fig. 7, 9 and 23), curved out or curved in (Fig. 12, 13, 16) and lastly hook like (Fig. 5, 14, 15).

Calcified dew claw were detected in buffaloes (Fig. 20) only, while wing like dew claws were only found in sheep and goats (Fig. 3, 4, 5) Supernumerary dew claws were observed in all animals of this work exept goats (Table 2) and (Fig. 1, 11, 21).

Incidence percentage of dew claw abnormalitie in the present study was nearly 46% in buffaloes, 33.5% in Cattle, 25.5% in sheep and 23.5% in sheep

and 23.5% in goats (Table 1). The highest incidence in buffaloes was the L-shape abnormality which reached nearly 18 while the lowest incidence in buffaloes was the hook like and Supranumerary dew claw 0.5% (Table 2).

In cattle the highest incidence was the L-shape 23%, while the lowest incidence was the hypoplastic, the hook like and the supranumerary 0.8% (Table 2).

In sheep the highest incidence was the curved out dew claws 19.3% while the lowest one was the Supranumerary 0.7% (Table 2).

In goats the highest incidence was the curved in dew claws 17% nearly while the lowest incidence was the hook like dew claw 2% (Table 2).

The majority of these abnormalities were accompanied by abnormalities in the main claws (Fig. 1, 2, 6, 8, 20, 21).

The prevalency of these overgrowths were noticed in governmental farms more than in private ones or in animals belonging to individual farmers, owing to the fact that governmental attendants neglect to clean and to call fortrimming the claws periodically. Dew claw abnormalities and overgrowths were prevalent in ewes and does more than in rams and bucks (Table 3), because males are more irritable and move too much searching for females in heat. In addition the number of males do not usually exceed 10% the number of females in the flock. This agrees with what was mentioned by Bayomi (1990). The same results were observed in female buffaloes and cows (Table 3). It is also worthy to notice that abnormalities and overgrowths of dew claws were more prevalent in white and pale coloured claws than in dark and black coloured ones, because they are less hard. This fact agrees with what was mentioned by Flourentine (1963) and Bayomi (1990). Trimming of dew claws is the only method to correct abnormalities and overgrowths as well as to prevent it.

The same was stated by o'connor (1982), Ereenogh *et al* (1972) Ereemough (1980) and Silber siepe *et al* (1965) who advise the use of tranquilizers for trimming claws of cattle. In the present study, it was obligatory to use a strong tranquilizer (Rompun Bayer) 15 minutes before timming the dew claws of buffaloes, because this species is very viscious. On the contrary trimming dew claws of cows, sheep and goats needs no tranquilizers. Bayomi (1990) was the only available reference for dew claw abnormalities in sheep and goats, while for buffaloes and cows no available literature concerned with dew claw abnormalities & overgrowths was found.

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LEGENDS

- Fig 1:** Supranumerary dew claw left hind limb in sheep.
- Fig 2:** Inverted L. shaped dew claw left hind limb sheep.
- Fig 3:** Diverging dew claw, L. shaped and inverted L. fore limb sheep.
- Fig 4:** Wing like dew claw right fore limb sheep.
- Fig 5:** Wing like in lateral dew claw right and hook like medial dew claw right fore limb goat.
- Fig 6:** Medially parallel dew claw in left hind limb goat.
- Fig 7:** L. shaped in lateral dew claw and hypoplastic in medial dew claw left hind limb goat.
- Fig 8:** L. shaped inner dew claw and diverging both claws cow.
- Fig 9:** Hypoplastic dew claw in right hind limb cow.
- Fig 10:** Diverging dew claw in right fore limb and inverted L. shape in left fore limb cow
- Fig 11:** Supranumerary dew claw at both fore limb cow.
- Fig 12:** Curved in left hind limb and inverted deviation of dew claw right hind limb cow.
- Fig 13:** Curved in inward deviation of dew claw in left hind limb cow.
- Fig 14:** Hook like dew claw in both fore limb buffalo.
- Fig 15:** Hook like dew claw in left fore limb sheep.
- Fig 16:** Outward deviation, curved out lateral dew claw right fore limb buffalo.
- Fig 17:** Diverging dew claw in left hind limb and laterally parallel dew claw in right hind limb buffalo.
- Fig 18:** Medially parallel dew claw in left fore limb buffalo.
- Fig 19:** Diverging dew claws in both fore limb buffalo.
- Fig 20:** Calcified dew claw in right hind limb buffalo.
- Fig 21:** Supranumerary dew claw in right hind limb buffalo.
- Fig 22:** L-shaped dew claw in right fore limb cow.
- Fig 23:** Hypoplastic dew claw right fore limb buffalo.
- Fig 24:** L-shaped dew claw in right fore limb buffalo.
- Fig 25:** Inverted L, shape in left fore limb buffalo.

Table (1): Incidence percentage of dew claw abnormalities and overgrowths among buffaloes, cattle, sheep and goats.

Species	No of inspected animals	No of affected animals	Incidence percentage
Buffaloes	437	201	45.99
Cattle	378	127	33.58
Sheep	572	145	25.35
Goats	418	98	23.44

Table (2): Incidence percentage of dew claw abnormalities and overgrowths in buffaloes; cattle; sheep and goats.

Abnormality	Buffaloes		Cattle		Sheep		Goats	
	No	%	No	%	No	%	No	%
Diverging	8	3.98	2	1.57	13	8.96	2	3.06
Laterally parallel	25	12.43	28	22.04	13	12.41	11	11.22
Medially parallel	29	14.42	22	17.32	15	10.34	16	16.32
L - shaped	36	17.9	29	22.83	11	7.58	13	12.26
Inverted L	34	16.9	18	14.17	20	13.79	13	13.26
Hypoplastic	5	2.48	1	0.78	3	2.06	4	4.08
Calcified	2	0.99	-	-	-	-	-	-
Curved out	25	12.43	13	10.23	28	19.31	15	15.3
Curved in	35	17.41	12	9.44	26	17.93	17	17.34
Hook Like	1	0.49	1	0.78	5	3.44	2	2.04
Supranumerary	1	0.49	1	0.78	1	0.689	-	-
Wing Like	-	-	-	-	5	3.44	4	4.08

Table (3): Incidence % of dew claw abnormalities in relation to age and sex in buffaloes, cattle, sheep and goats.

Species	Age	Diverg- ing		Parallel latrally		Parallel medially		L-shap		Inverted L		Hypop- lastic		Calcified		Curved out		Curved in		Hook like		Supra- numery like		Wing		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Buffaloes	up to 3 years	-	1	1	3	-	1	-	2	-	3	-	1	-	-	1	2	-	2	-	-	-	-	-	-	-
	3 - 6 years	-	1	1	5	-	11	1	6	1	12	-	1	-	-	-	7	-	20	-	-	-	-	-	-	-
	6 - 10 years	-	3	1	6	-	13	-	12	1	15	-	2	-	2	1	9	1	8	-	1	-	-	-	-	-
	over 10 years	-	3	-	8	-	4	-	14	-	2	-	1	-	-	-	5	-	4	-	-	-	-	-	-	-
	up to 3 years	-	-	1	2	1	1	1	2	-	1	-	-	-	-	-	1	2	-	1	-	-	-	-	-	-
Cattle	3 - 6 years	-	1	1	4	1	8	1	5	1	3	-	-	-	-	-	4	-	4	-	1	-	-	-	-	-
	6 - 10 years	-	1	1	8	2	2	-	13	-	10	-	1	-	-	1	3	1	4	-	-	-	-	-	-	-
	Over 10 years	-	-	-	11	-	7	-	7	-	3	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-
Sheep	up to 2 years	-	2	1	1	-	1	-	1	1	2	-	-	-	-	-	1	3	-	2	-	-	-	-	-	-
	2 - 4 years	-	3	1	2	1	4	-	2	-	6	-	1	-	-	-	1	9	1	6	-	-	-	-	-	1
	4 - 6 years	1	1	1	4	-	6	2	3	1	7	-	1	-	-	-	1	10	1	9	1	3	-	-	-	3
	Over 6 years	1	4	2	6	1	2	1	2	-	3	-	1	-	-	-	3	-	7	-	1	-	-	-	-	1
Goats	up to 2 years	-	-	1	-	-	-	-	-	1	-	2	-	-	-	-	-	1	-	1	-	-	-	-	-	-
	2 - 4 years	-	-	1	1	-	4	1	4	-	1	1	1	1	-	-	1	3	1	4	-	1	-	-	-	2
	4 - 6 years	1	1	1	3	-	8	-	2	1	6	-	1	-	-	-	1	5	1	8	-	1	-	-	-	2
	Over 6 years	-	1	-	3	-	4	1	3	-	3	-	1	-	-	-	4	-	3	-	-	-	-	-	-	-





