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Management Of Dystocia In Small Ruminants

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ABSTRACT

A total number of 225 cases of dystocia (120 ewes and 105 goats) were managed in the present work. Regarding the causes, the higher incidence of dystocia was observed to be due to lack of cervical dilatation in both goats (38%) and ewes (37.5%) followed by abnormalities in posture. The other causes of dystocia in both goats and ewes were discussed. It is concluded that a quick decision must be made as to whether vaginal delivery is likely to be successful particularly if the foetuses are still alive. It was decided to perform caesarian section when the ratio of fetomaternal disproportion was 2.3.

INTRODUCTION

People raise ewes and goats to produce multiple births and big, fast growing lambs and kids. They can give birth without help, and do a marvelous Job of taking care of their offspring. Once dystocia is present it will be a dilemma that may lead to deaths of foeti, dam and/or both (1). Moreover, dystocia had a high economic importance as it was responsible for 12-20% of lambs and kids mortalities (2,3).

Many reports discussed the causes and or incidence of dystocia in small ruminants. The causes include the fetopelvic disproportion (4-6). Incorrect a ligament of foetus(7). The incidence of incomplete cervical dilatation ranged between 15-32% (8). High percentage of dystocia was recorded due to cross breeding (9,10). The constriction of vestibulum and/or vulva was mostly associated with estrogen pasture (11). Oversize foeti were responsible also for the occurrence of dystocia (6,9). The ventral hernia was associated with dystocia (10). Underfed animal and pregnancy toxemia were responsible also for dystocia (12-14).

The aim of the present study was to throw the light on the most commonest causes of dystocia in small ruminants and their managements.

MATERIAL AND METHODS

A total number of 225 ewes and goats suffering from dystocia were admitted into our

Vet. Clinic together with those belonging to sheep and goat Keepers at different localities in Qulyobia Province over a three years period from 2000-2003. These dystocias represented the difficult assisted lambing or kidding and their sequellae.

Decisions to perform caesarean sections in this study were taken after evaluation of the status of the clinical cases as well as determination of fetomaternal ratio disproportion (15) who suggested evaluation of the fetomaternal ratio formula as the following.

Ratio of feto-maternal disproportion (R).

$$R = \frac{M}{F} \times \frac{P}{B} \times \frac{I}{E}$$

M = inter – ischial diameter of ewe (cm)

F = Digital diameter of foetus measured at fetlock (cm)

P= Parity (Primiparous = 0.95, multiparous =1).

B= Presentation (posterior presentation = 1.05, anterior = 1)

E = Conformation of male (ram or buck) when available.

exaggerated muscular type = 1.05

normal confirmation = 1

If R = 2.3 or less surgery is indicated.

If R= 2.1 or lees, surgery is essential.

In a goat with uterine torsion, detorsion was performed after a modified method of Schffer (16).

Caesarean sections were performed under the effect of linear infiltration anaesthesia using 2% lignocaine HCL solution at the site

of the operation. It was performed either through left lateral approach (40 ewes and 25 goats), (fig. 5A) or paramedian approach (14 ewes and 35 goats), (fig. 5B) .

An oblique skin incision, 10-15 cm in length was performed in the left paralumbar fossa. In cases of paramedian approach, the incision was performed half way between the linea alba and the left subcutaneous abdominal vein, cranial to the udder and extending cranially to the umbilicus. The subcutaneous tissue and the abdominal muscles were dissected and the peritoneum was incised. The uterus was partially exteriorized through the incision. The foetal limb within the uterus was drawn to the incision site. Then the uterus was incised over the limb and the fetus was delivered.

The foetal membranes were trimmed and replaced in the uterus. The uterine wall was sutured with a double layer of inverting sutures (Schmedian and Lambert suture patterns) using No 1 chromic cat gut. The uterus was replaced to the abdominal cavity. A therapeutic dose of oxytetracycline was administered as intraperitoneal medication after replacement of the uterus. The abdominal muscles were sutured with horizontal mattress suture pattern using cat gut No 1. Skin was then closed with an interlocking pattern using synthetic non-absorbable suture material.

In sheep, lack of cervical dilatation, was corrected systematically via either manually or i.m. injection of 10 mg estradiol benzoate (Folone 5, Misr Co. For Pharma IND. S.A.A.) and 15 mg PGF₂α (Lutalyse, Pharmacia Nv/SA- Puurs Belgium). In goats, cervical dilatation was induced by using estradiol benzoate(10mg/i.m) and by Dexamethasone 25mg/i.m (Egyptian Co. for Chemicals & Pharmaceuticals ADWIA) . The unresponded cases C.S. were performed.

RESULTS

As shown in table (1) the following forms of dystocia were observed.

1) Lack of cervical dilatation (Ring womb)

A total of 85 cases (45 ewes and 40 goats) suffered from incomplete cervical dilatation. 24 cases (10 ewes and 14 goats) were from the first degree (not more than two fingers pass through the cervix), the second degree 36 cases (12 ewes and 24 goats) in which not more than foetal head could pass through the cervical canal and for the third degree a total of 25 cases (23 ewes and 2 goats) in which neither the foetal shoulder nor pelvis could pass through the cervical canal. All these cases were hormonally treated and Caesarian section was performed in the unresponded cases (n=17).

2) One leg and head presented (abnormalities in posture)

It represent 9 cases (7.5%) in ewes and 5 cases in goats (4.76%). In those cases one leg and the head of the foetus are in the birth canal . It is corrected. Pushing the head and exposed leg back in first & correct the other shoulder.

3) Breech presentation

It represents 9 cases in ewes (7.5%) and 7 cases in goats (6.67%). The tail was present, and the hocks were catch on the pelvic arch, sometimes the foetal membranes appeared from the vulva. It is corrected by straightening out the rear legs and be pulled gently but quickly, so, the foetus doesn't drown in amniotic fluids when the cord breaks. C.S was performed in 5 ewes and 4 goats.

4) Legs presented, no head (abnormalities in posture)

A total of 18 ewes (15%) and 7 goats (6.67%) admitted into the clinic with appearance of either one or two legs without head either anterior (Figures 1a &b) or posterior (Figures 2a &b)presentation. Firstly, the legs were pushed back through the birth canal, then both the head and neck were straightened out. For posterior presentation, after the correction of the flexed part, the foeti were got out easily. In the presence of good uterine contractions, it will help to get right

presentation. C.S. was performed on 3 of them.

5) Transverse presentation

Transverse presentation was observed in 9 ewes (7.5%) and 15 goats (14.29%). This condition was commonly observed with small foeti such as triplets (Figure 3b). All cases were delivered by C.S.

6) Foetal anomalies

A total of 6 cases of foetal malformations were recorded, 2 of them were hydrocephalus in goat (Figure 4b) and 4 cases of foetal anasarca in ewe (Figure, 4a). All these cases were extracted by C.S.

7) Over -sized foetus

Two cases had over sized foetuses and C.S was performed.

8) Uterine torsion

A case of goat with uterine torsion was recorded (0.95%) detorsion was performed after a modified method of Shaffer (16). After detorsion the fetal membrane was ruptured but the cervix failed to dilate completely and C.S. was performed.

9) Ventral hernia

A total of 9 cases with ventral hernia; of which 6 ewes (5%). and 3 goats (2.86%) were recorded. All these cases had twins and most of them (4 cases) were accompanied by dropsy in the fetal sac. All these cases had no history of trauma and their probable cause was the increased intraabdominal pressure (Figure, 3a).

10) Fractured pelvis

One ewe suffered from fractured pelvis (0.83%). C.S. was performed and the dam was slaughtered.

11) Ruptured uterus

One ewe which suffered from dystocia came with uterine rupture. The intestine were protruded into the vaginal cavity.

12) Pregnancy toxemia

A total of 10 ewes and 21 goats had dystocia due to pregnancy toxemia. All of these cases were in pluriparous females with twins or triplets. C.S. was indicated in all cases.

13) Uterine inertia

7 ewes (3.5%) and 3 goats (2.86%) had dystocia due to uterine inertia. All cases with fully dilated cervix. All foeti were tracted after rupture of foetal membrane.

Table (1): Direct causes of dystocia and the possible interference in ewes and goats.

Cause of dystocia	Ewes (n= 120)			Goats (n= 105)		
	N	%	Interference	n	%	Interference
Lack of cervical dilatation (n= 85)	45	37.5	Hormonal + 9 cases C.S	40	38.1	Hormonal + 8 cases C.S
One leg & head presented (n= 14)	9	7.5	7Correction + 2 C.S	5	4.76	4Correction + C.S
Breech presentation (n= 16)	9	7.5	C.S	7	6.67	C.S
Leg & no head (n= 25)	18	15	16 correction + 2C.S	7	6.67	6 Correction+ 1C.S
Transverse presentation (n= 24)	9	7.5	C.S	15	14.29	C.S
Foetal anomalies (n= 6)	4	3.3	C.S	2	1.90	1C.S + 1 partial foetotomy and C.S
Oversized foetus (n= 2)	1	0.83	C.S	1	0.95	C.S
Uterine torsion (n= 1)	-	-		1	0.95	C.S
Ventral hernia (Ventre flexion of the uterus) (n= 9)	6	5	C.S	3	2.86	C.S
Fractured pelvis (n= 1)	1	0.83	C.S	-	-	-
Ruptured uterus (n= 1)	1	0.83	C.S	-	-	-
Pregnancy toxæmia (n= 31)	10	8.33	C.S	21	20%	C.S
Uterine inertia (n= 10)	7	5.8	Traction	3	2.86	Traction

C.S: caesarian section

C.S: were performed when R= 2.3



A

B

Figure, 1: Anterior presentation ventral position

a- before correction

b- after correction.



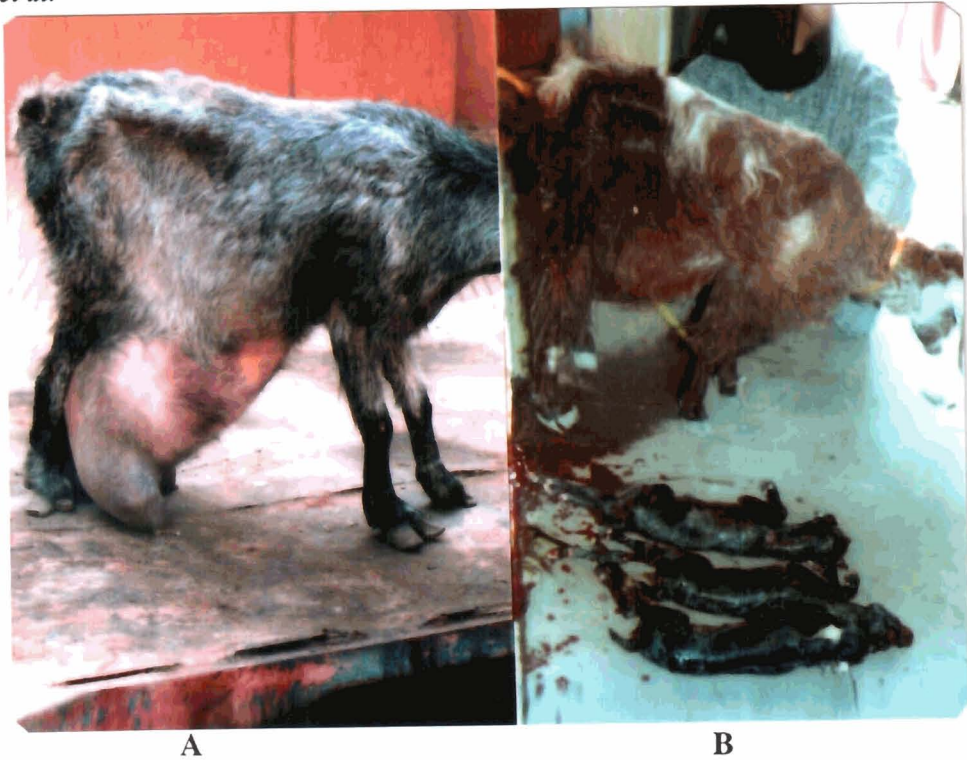
A

B

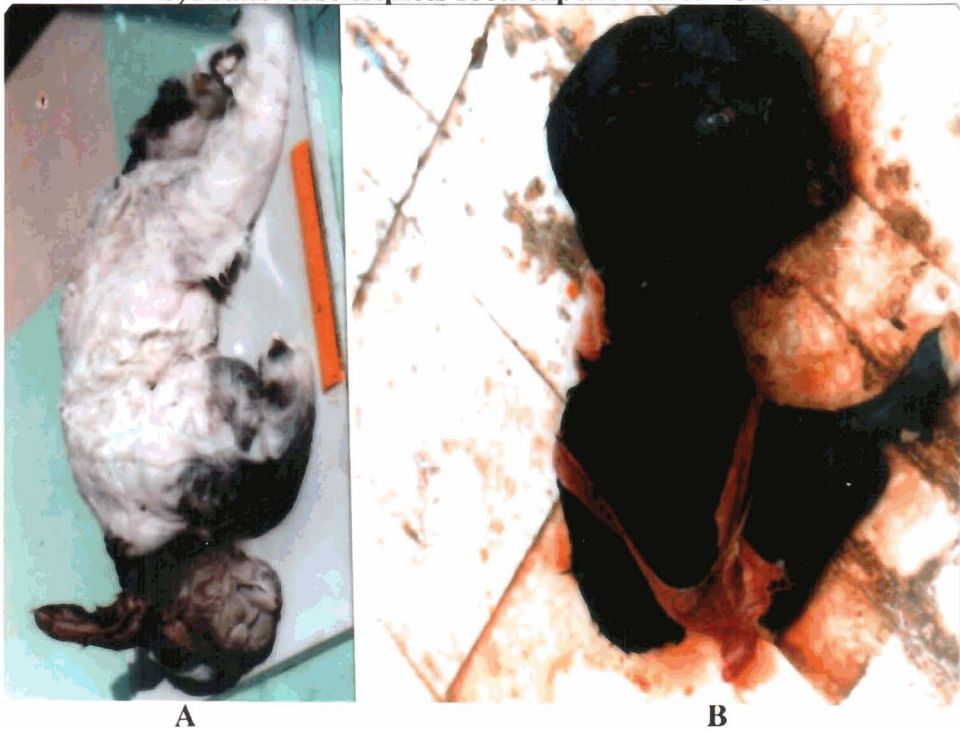
Figure, 2: Posterior presentation with one leg only present

a- before correction

b- after correction.



Figure, 3: a) Ventral hernia during pregnancy corrected by C.S.
b) Transverse triplets foeti expelled After C.S.



Figure, 4: a) Foetal anasarca in ewe extracted by C.S.
b) Foetal hydrocephalus in extracted Kid by C.S.



A

B

**Figure, 5: a) left lateral approach of C.S. in goat.
b) Paramedian incision of C.S. in goat.**

DISCUSSION

The main causes of dystocia in small ruminants under Egyptian condition are not fully understood. However, the present study is a trial to investigate some of these causes, ideal approach and easier solution.

In the present investigation lack of cervical dilatation constituted 37.5% and 38.8% in ewes and goats respectively and the majority of cases were from the 3rd degree (not more than 2 fingers could pass through the cervical canal). This result agrees with those reported by *Weinfeld et al (17) and El-Agawany (6)*.

Defects in posture of fetal head with one fore limb constitute about 7.5% in ewes and 4.76% in goats, while the presence of one leg and no head constitute 15% in ewes and 6.67% in goats. These results are in harmony with

those reported by *El-Agawany, (6); Roberts (7); Ellis, (18) and Laing et al, (19)*.

Ventroflexion of the uterus (ventral hernia) constituted 5% in ewe and 2.86% in goats. All of these cases had twins and this condition might be attributed to the increase intraabdominal pressure (6).

Pregnancy toxemia was responsible for 8.3% of dystocia in ewes and 20% of cases of dystocia in goats. This might be due to insufficient nutrients (10, 20).

From the present study, it is essential that a quick decision is made as to whether vaginal delivery is likely to be successful particularly if the foetuses are still alive. Time spent trying to deliver foetuses unsuccessfully may mean they are dead by the time. It is decided to perform a C.S. when the ratio of foeto maternal disproportion was 2.3. If

foetuses have been died for sometime particularly if putrid, a ceaserian operation is less likely to produce a favour outcome. It is preferable in such instances to perform foetotomy.

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الملخص العربى

التعامل مع عسر الولادة فى المجرنات الصغىرة

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اجريت هذه الدراسة على عدد ٢٢٥ حالة عسر ولادة (١٢٠ نعجة ، ١٠٥ من اناث الماعز). وقد تم تحديد اسباب عسر الولادة المختلفة حيث كانت اعلى نسبة هى نتيجة نقص فى اتساع عنق الرحم فى الماعز (٣٨%) والنعاج (٣٧,٥%) وكذلك تم تسجيل ومناقشة باقى الاسباب المختلفة. وقد تم استنتاج ان التدخل سريعاً يقى حياة الام والجنين وان يكون اجراء الولادات القيصرية عندما تكون العلاقة بين الجنين وحوض الام ($R=2.3$).