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## **GROSS ABNORMALITIES AFFECTING GENITAL TRACTS OF ALGERIAN EWES**

(With 5 Tables and 5 Figures)

By

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(Received at 30/3/2002)

تشوهات الجهاز التناسلي في الأغنام الجزائرية  
(دراسة تشريحية حقلية)

فاطيمة بن شعيب ، صلاح يوسف الدهشي

أجرى الفحص التشريحي للجهاز التناسلي لعدد ٥١٠ عينة أرحام نعاج تراوح عمرها بين ٦ أشهر وحتى سنتان. وقد تم جمع هذه العينات من المجرز الحكومي بولاية تيارت الجزائرية وذلك لاستكشاف أعداد وأماكن الأجنة لكل عينة وكذلك قياس الطول والعرض والقطر للمبيض وكذلك وزنه إضافة إلى تسجيل أهم التشوهات المرضية في الرحم وقناة المبيض والمبيض. وقد أظهرت الدراسة أن غالبية النعاج حامل في حميل واحد وأن معظم الحملان كانت تتمركز في القرن الأيمن للرحم. تلعب نسبة التشوهات الظاهرة ٤٠% من مجموع العينات المفحوصة وكان أهمها الحويصلات الملتصقة بالمبيض والتهاب الرحم وتشوهات عنق الرحم. تعتبر هذه الدراسة الأولى من نوعها للسجلات المحلية في الجزائر مما يدعو إلى إجراء دراسات مستقبلية مستقبلاً لتحديد حجم المشكلة ودراسة أسبابها.

### **SUMMARY**

Macroscopic study of 510 female genital tracts of adult ewes of Awlad Djallal and Al Hamraa national breeds, ageing from 6 months to two years was studied. The material was collected at Tiaret abaltoiv (1994-1995) and showed that 112(21.9%) of them were pregnant (beginning of pregnancy, about 1 month), of which 97(86.6%) were single pregnancy and 15(13.3%) were twin pregnancies. Distribution of the fetuses in the right horn was 53.5% against 46.5% in the left horn. The length, width, diameter and weight of the right ovary were respectively:  $1.5 \pm 0.27$ cm,  $1.16 \pm 0.22$  cm;  $0.55 \pm 0.16$  cm and  $0.77 \pm 0.24$  g. Those of the left side were respectively:  $1.48 \pm 0.26$  cm;  $1.14 \pm 0.22$  cm;  $0.55 \pm 0.15$  cm and  $0.72 \pm 0.23$  g. The study indicated that the right ovary was more active than the left ovary. Of the total genitalia examined, 204 (40%) showed different types of abnormalities: Paraovarian cysts (21,37%), metritis

(6,27%), cervical abnormalities (6,47%) , ovarobursal adhesions (1,56%), and pyometra (1,56%).

**Key words:** *Abnormalities, Genital tracts, Algerianewes.*

## **INTRODUCTION**

Ovine raising in Algeria comprises 17,7 millions of sheep and 8,5 millions of goat (Chellig, 1992) mainly used for the production of meat and milk. Ewes are highly fertile, however, most are uniparous. Knowledge of abnormalities of the female genital tract is essential for achieving maximum reproductive efficiency, however, little information is available on the reproductive disorders in Algerian ewes (Chellig, 1992).

The present study was therefore undertaken for the first time in Algeria to register the various gross abnormalities of genitalia in pregnant and non pregnant ewes.

## **MATERIAL and METHODS**

Five hundred and ten genitalia of locally raised ewes were collected from Governmental abattoir in Tiaret, 350 km west of capital Algeria. Fresh specimens were transported in plastic bags to the laboratory, where immediate gross examination was undertaken. Gravid uteri were examined for recording location and number of fetuses. Detection of gross abnormalities in such uteri was also performed. Right and left ovaries were dissected; each ovary was examined for number and position of corpora lutea.

Length of each ovary was determined as the maximal distance from pole to pole along an axis parallel to the ovarian mesometrial attachment according to Barone (1978). Width was measured as the greatest distance along an axis vertical to the longitudinal axis (Djassem, 1989). The diameter was measured as the greatest distance along an axis at right angles to the other two axes (Djassem, 1989). Weight of both ovaries, separately, was carried on an electric balance (Sauter R.E.2021). No information was obtained on the identity of individual specimens.

## **RESULTS and DISCUSSION**

The results of the finding are presented in Tables 1-5 and Figures 1-5. Of the 510 tracts examined, 112(21.9%) were gravid and 204 (40%)

204 (40%) showed different macroscopic abnormalities (Table 1). This incidence of gross abnormalities of genitalia in local breed ewes were found to be higher than that reported by Winter and Dobson (1990), 6%. However, AlDahash and Alwan (1989), have reported 23.7% incidence in Iraqi ewes.

**Table 1: Percentage of gravidity and gross abnormalities in examined slaughtered ewes.**

State	Number	%
Gravid	112	21,96
Abnormalities	204	40
Other cases	194	38,03
<b>Total examined</b>	<b>510</b>	<b>100</b>

Of the 112 gravid tracts, 97(86.61%) had a single fetus, 15 (13.39%) twin fetuses (Table2). Similar results were previously recorded by Roberts (1986) in USA and Al Dahash and Alwan (1989) in Iraq.

**Table 2: Location and number of fetuses in examined uteri.**

Pregnancies	Total of genitalia		Number of fetuses		Total
	Number	%	Right horn	Left horn	
Single	97	86.6	53(54.63%)	44(45.36%)	97(76.37 %)
Twin	15	13.39	15(50%)	15(50%)	30(23.62 %)
<b>Total</b>	<b>112</b>	<b>100</b>	<b>68</b>	<b>59</b>	<b>127</b>

The side of pregnancy is presented in Table 3, (Fig. 1). In the right horns there were 68 fetuses, whereas in the left horns there were 59 fetuses. Results of fetal location in the right and the left uterine horn (Table2) are in agreement with the observations reported by Roberts (1986).

A total of 133 corpora lutea were noted in the ovaries of the 112 gravid uteri. Seventy four (55,6 %) corpora lutea were in the right ovary and 59 (44,3 %) in the left, (Table 3).

**Table 3: Distribution of the C.L. (right or left ovary) according to the location of the fetuses in the uterus. C.L.: corpora lutea.**

Uterine horns	Number of Fetuses	%	Position of the C. L		Total
			Right	Left	
Right	68	53.54	63 47.3 %	12 9.02 %	75
Left	59	46.45	11 8.27 %	47 35.33 %	58
Total	127	100	74 55.6 %	59 44.3 %	133

Length, width and diameter of the right and the left ovaries obtained from gravid and non-gravid specimens are shown in Table 5. Right ovary appeared generally slightly larger than the left one. These measurements are in agreement with the findings of Djassem (1989), Roberts (1986), Thibier (1993) and Barone (1978).

Of the 510 genitalia examined, 204(40%) showed different types of abnormalities (Table 4). Similar incidence has been reported by Winter and Dobson (1990). The incidence (20.1%) reported by Aldahsh and David (1974) was lower than the present result. The difference could be due to difference of breed and/or environment. Cases of paraovarian cysts (Fig. 2) form 21.3% followed by metritis 6.2% and cervical abnormality (Fig. 3). Summers (1973) and Alam (1971) have reported 17%, and 0.69% incidence respectively in cattle. The paraovarian cyst did not interfere with the transport of ova through the oviduct. The cysts were spherical or oval in shape, they were attached mostly to the anterior poles of the ovaries or to the fimbriae of the oviducts. Ovarobursal adhesions represents (01.5%), (Fig. 4). This incidence was lower than what was reported by Alam (1971) and Herenda (1984). Uterine gross abnormalities included metritis (6.2%), pyometra (0.19%) and fetal mummification (0.98%), (Fig. 5). As a conclusion, the present data on abnormalities observed in genitalia of slaughtered ewes could be considered as the causes of temporary infertility in local Algerian breeds.

**Table 4:** Percent of gross abnormalities in pregnant and non pregnant genitalia of examined ewes (n= 510).

<b>Abnormality</b>	<b>Number</b>	<b>%</b>
Paraovarian cyst	109	21.37 %
Follicular cyst	06	01.17 %
Supernumerary ovary	04	0.78 %
Ovarobursal adhesion	08	01.5 %
Occlusion of the oviduct	03	0.58 %
Metritis	32	06.27 %
Mummification	05	0.98 %
Pyometra	01	0.19 %
Abortion	02	0.39 %
Fetal maceration	01	0.19 %
Abnormal cervix	33	06.47 %
Total	204	40 %

**Table 5: Mean values of dimensions (cm) and weight (g) of ovaries.**

Sample	Right Ovary				Left Ovary			
	L (cm)	W (cm)	D (cm)	P (g)	L (cm)	W (cm)	D. (cm)	P (g)
Non pregnant N=398	1.43 + 0.25	1.13 + 0.24	0.52 +0.18	0.71 +0.28	1.40 + 0.23	1.19 + 0.23	0.50 +0.17	0.64 + 0.27
Pregnant N=112	1.77 + 0.3	1.35 + 0.21	0.64 + 0.14	1.08 + 0.21	1.77 + 0.3	1.32 + 0.22	0.65 + 0.13	1.02 + 0.19
Total N= 510	1.5 ± 0.27	1.16 ± 0.22	0.55 ± 0.16	0.77 ± 0.24	1.48 ± 0.26	1.14 ± 0.22	0.55 ± 0.15	0.72 ± 0.23

L=length ; W=width ; D=diameter ; P=Weight.

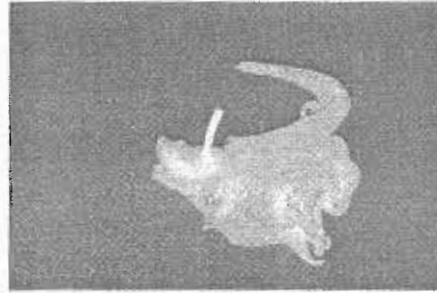
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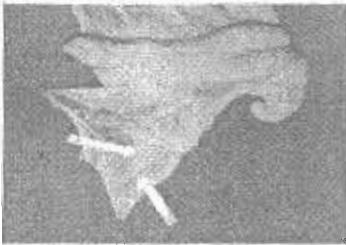
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**Fig. 1 : Gravid uterus.**



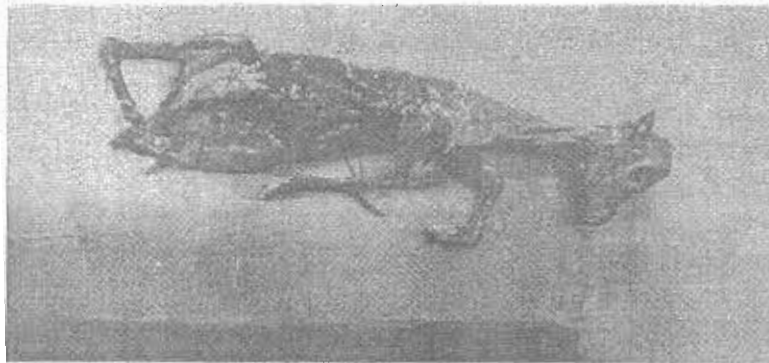
**Fig. 3 : Cervix abnormality.**



**Fig. 2 : Paraovarian cysts.**



**Fig. 4 : Cervical adhesion.**



**Fig. 5 : Fetal mammification.**