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Short Communication

Size of genitalia of Iranian goats in pregnancy

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Reproductive organs with no apparent abnormalities were collected from seventy pregnant goats slaughtered at Ahvaz abattoir of southern Iran. The weight of uteri and ovaries, diameter and length of gravid and non-gravid uterine horns, and diameter and length and thickness of ovaries were measured. Gravid uterine weight increased (4205.0 ± 962.7g in last month) with the advancement of pregnancy. The dimensions of ovaries in different months of pregnancy were not significantly different. (*Bangl. vet*. 2012. Vol. 29, No. 1, 38 – 40)

Concentration on goats has increased and initiatives have been starting for development of related industries. Knowledge of genital tract biometry is important in breeding operations, diagnosis, treatment and control of fertility in female animals (Al-Baggal *et al.,* 1993; Srivastava, 1994).

Size of reproductive organs is influenced by species, breed and environment (Ley, 1986; Sattar *et al*., 1988). Furthermore, different biological aspects of goats are usually considered as sheep (Adigwe and Fayemi, 2005). In Iran, because of low maintenance costs and rapid adaptation to different climate, native goats are widely farmed (Banan Khojasteh *et al*., 2006). There is little information about their reproductive characteristics, especially in pregnancy. In the present study, the reproductive organs of pregnant Iranian goats were measured.

Seventy pregnant goat's reproductive organs, which had no apparent abnormalities were collected in Ahvaz city abattoir of southern Iran. Weight of the gravid uteri and ovaries, diameter and length of gravid and non-gravid uterine horns and weight, length, width and thickness of ovaries were taken as described by samples were classified from the second to fifth months of pregnancy. Analyses of data were done by SPSS16 software and comparisons of mean values were performed using Duncan's method.

The results were calculated as the means (± standard error) for each parameter are shown in Table 1.

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Table 1. Means ± SE of the analysis variables

Parameters	1-2 months (n = 17)	2 to 3 months (n = 20)	3 to 4 months (n = 19)	4 to 5 months (n = 14)
	Means ± SE	Means ± SE	Means ± SE	Means ± SE
Weight of gravid uteri (g)	230.3 ± 6.0[d]	1113.2 ± 94.4[c]	2040.6 ± 109.8[b]	4205.0 ± 962.7[a]
Diameter of gravid horns (cm)	7.2 ± 0.6c	12.9 ± 0.4b	15.4 ± 0.7a	17.4 ± 2.0[a]
Diameter of non-gravid horns (cm)	5.2 ± 0.4b	9.0 ± 0.5a	9.2 ± 0.6a	10.1 ± 0.9a
Length of gravid horns(cm)	21.7 ± 1.4c	35.4 ± 1.7b	41.5 ± 1.9b	52.0 ± 5.03a
Length of non-gravid horns (cm)	17.7 ± 1.4c	27.9 ± 1.4b	28.0 ± 2.4b	37.8 ± 3.2a
Weight of right ovary (g)	1.3 ± 0.2	1.5 ± 0.2	1.8 ± 0.2	1.8 ± 0.3
Weight of left ovary (g)	1.1 ± 0.1	1.9 ± 0.2	1.7 ± 0.3	1.7 ± 0.3
Length of right ovary (cm)	1.9 ± 0.1	1.9 ± 0.1	2.1 ± 0.1	1.9 ± 0.0
Length of left ovary (cm)	1.8 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.2
Width of right ovary (cm)	1.4 ± 0.1	1.3 ± 0.1	1.5 ± 0.1	1.4 ± 0.2
Width of left ovary (cm)	1.3 ± 0.1	1.4 ± 0.1	1.4 ± 0.1	1.3 ± 0.2
Thickness of right ovary (cm)	0.9 ± 0.1	0.8 ± 0.0	0.9 ± 0.1	1.0 ± 0.1
Thickness of left ovary (cm)	0.9 ± 0.0	1.0 ± 0.1	1.0 ± 0.1	0.8 ± 0.1

To date, all biometric studies in goat's genitalia have been in non-pregnant goats. Macroscopic studies of the female genital system in Iraqi goats (Al-Baggal *et al*., 1993), Red Sokoto (Maradi) goats of Nigeria (Adigwe and Fayemi, 2005), Bakarwali (Kalita *et al*., 2003) and Angora crossbred goats (Srivastava *et al*., 1994) in India have been accomplished. According to these studies, differences in dimensions of non-pregnant goats and sheep of various breeds are probably the result of species differences.

If goats at the age of two to three weeks are fed from bush leaves, dry fodder or grasses with limited supplementary food, growth and reproductive development will be delayed (Adigwe and Fayemi, 2005; Obwolo, 1992). The differences in sizes of the genitalia may be due to effects of climate; young goats in tropical regions in the first dry season show a delay in growth. Pregnant goats with higher nutritional status produce heavier kids than those with poorer nutrition. This may affect the size of the reproductive tract during fetal development (Akusu, 1987; Singh *et al*., 1992; Oyeyemi *et al*., 2001; Adigwe and Fayemi, 2005).

In this study, there was no significant difference between the right and left ovarian weights in different months of pregnancy, but significant differences were observed between the right and left ovaries of pregnant Iraqi goats, and this difference could be due to the development of corpora lutea (Alwan *et al*., 1993). According to findings of Alwan *et al.* (1993), the right ovary appeared to be larger than the left one and was not in agreement with these findings.

The findings of this study have provided the basic information about the dimensions of the genital tract in Iranian pregnant goats. This information can be used for further studies.

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