

Age Related Changes in Biometry of Genital Organs of Teddy Goat

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Abstract

To study the biometry of genital organs of teddy goats, one hundred and twenty reproductive tracts were collected from slaughterhouse of Multan during September 2011 to December 2011. The reproductive tracts were divided into two groups (group A, 12-18 months and group B age between 24-30 months) on the basis of the age of slaughtered animals. For cervix length and width, the average measurements of group A were 3.56 ± 0.04 cm, 1.34 ± 0.06 cm, and in group B were 3.92 ± 0.05 cm, 1.87 ± 0.08 cm, respectively. Similarly in group A, the average size of body of uterus was 1.18 ± 0.08 cm, 1.53 ± 0.10 cm, 0.21 ± 0.07 cm and in group B, 1.55 ± 0.06 cm, 1.82 ± 0.11 cm, 0.26 ± 0.06 cm. The average size of the right horn of uterus in group A was 11.42 ± 0.39 cm, 1.63 ± 0.33 cm, 0.37 ± 0.09 cm and the size of the left horn of uterus was 11.67 ± 0.40 cm, 1.43 ± 0.25 cm, 0.36 ± 0.07 cm while the average size of the right horn of uterus in group B was 13.51 ± 0.27 cm, 1.78 ± 0.34 cm, 0.51 ± 0.06 cm and the size of the left horn of uterus was 13.76 ± 0.32 cm, 1.72 ± 0.34 cm, 0.51 ± 0.04 cm for length, width and thickness, respectively. Mean length of right and left fallopian tube in group A was 14.96 ± 0.26 cm, 15.03 ± 0.19 cm while in group B was 15.23 ± 0.23 cm, 15.28 ± 0.25 cm. In group A the average size of the right ovary was 1.61 ± 0.08 cm, 1.19 ± 0.04 cm, 0.77 ± 0.06 cm while in left ovary 1.44 ± 0.04 cm, 1.16 ± 0.03 , 0.74 ± 0.07 cm for length, width and thickness, respectively. Similarly, in group B the average size of the right ovary was 1.77 ± 0.09 cm, 1.35 ± 0.03 cm, 0.95 ± 0.06 cm while in left ovary 1.70 ± 0.08 cm, 1.33 ± 0.05 cm, 0.91 ± 0.05 cm, for length, width, and thickness, respectively. It was concluded that the size of genital organs of teddy goat increases with age during 12-18 months to 24-30 months of age.

Key words: Goat, biometry, cervix, uterus, fallopian tube, ovary.

1. Introduction

Livestock accounts for 55.1 percent of agricultural value added and contributes 11.5 percent to GDP. Among livestock goat is playing a significant role and there are approximately 61.5 million heads in the country [1]. Goat is a source for fulfilling the daily domestic requirements in the form of milk and meat for human consumption. Though consumption of goat milk is low, the potential market is large, since such milk is good substitute for consumers allergic to cow milk [2]. To cope with increased demand of meat and milk it is necessary to increase the goat population. For this purpose such breeds of goat should be reared which possess the traits like early maturity and better reproductive efficiency. Teddy goat is renowned by virtue of its small size, early maturity, high

percentage of twinning and triplets. The knowledge of reproductive physiology and pathology of the Teddy goat would be of significant value to improve its performance. However, information regarding the reproductive function of this breed is scanty. Even the basic data about biometric norms of genital organs of this breed are not known. So, it is essential to investigate the reproductive traits of Teddy goat. The main objective of present study was therefore to know the biometry of genital organs of Teddy goat.

2. Materials and methods

A total of one hundred and twenty reproductive tracts of Teddy goat were collected from slaughterhouse of Multan during the period of September 2011 to December 2011. These reproductive tracts were divided into two groups

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(n=60) A & B on the basis of age of slaughtered animals. Group A comprised reproductive tracts of those animals that were slaughtered between 12-18 months of age while group B consisted of reproductive tracts of those animals that were slaughtered at the age of 24-30 months. Biometry of these reproductive tracts was done at Department of Clinical Sciences, Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan by the help of vernier caliper and graduated tape as described by various authors [3, 4, 5]. Following parameters were adopted for biometrical examination of different organs. Cervix: Length (internal os to external), width (in the middle). Body of uterus: Length (cervix to horn), width (in the middle), wall Thickness (in the middle). Horn of Uterus: Length (uterus to the apex of horn), wall Thickness (in the middle). Fallopian Tube: Length (from infundibulum to uterus junction). Ovary: Length (from cranial to caudal surface), width (lateral and medial border) and thickness (from dorsal to ventral surface). The data was statistically analyzed by using paired t-test [6]. The values were considered significant at (P<0.01).

3. Results and Discussion

The mean (± SD) values of length, width for cervix and length, width, thickness for body of uterus in group A and B are presented in Table 1.

The mean length and width of cervix in group B animals was significantly (P<0.01) higher as compared to group A. The average measures (length and width) for cervix in group A and B are in agreement with Singh *et al.* (1974) and Das *et al.* (1982). However, these findings are not in agreement with Lyngset 1968 which might be due to breed difference. The mean length, width and thickness of body of uterus were significantly (P<0.01) higher in group B when compared with group A. The average size (length, width, thickness) of body of uterus in group A and in group B is in agreement with Das *et al.* (1982).

The mean (± SD) values of length, width and thickness for right and left horns of uterus and ovaries in group A and B are presented in Table 2.

The average measures (length, width, thickness) for right and left horn of uterus were significantly (P<0.01) higher in group B in comparison with group A. The mean lengths of the right and left horn of uterus in group A and B are lower than those reported by Singh *et al.* (1974) and Das *et al.* (1982). In both the groups, the mean values for width of right and left horn of uterus are higher than those given by Singh *et al.* (1974). However the values for thickness are in agreement with Das *et al.* (1982) but smaller than Singh *et al.* (1974). The variations in results of present study with other workers may be due to difference in breed of goat studied.

In group B, the length of right and left fallopian tube was significantly (P<0.01) higher when compared with group A. In both the groups, the mean lengths of right and left fallopian tube are in agreement with Singh *et al.* (1974) and Das *et al.* (1982).

Compared with group A, the mean length, width of right and left ovary in group B was significantly higher (P<0.01). In group A and B, the average lengths of right and left ovaries are smaller than those reported by Lyngset, (1968) and Das *et al.* (1982). Lyngset, (1968) observed higher values for width of ovaries than the present study, while Singh *et al.* (1974) and Das *et al.* (1982) reported lower values. The average values for thickness of right and left ovaries of group A and B were lower than reported by other workers (Singh *et al.*, 1974 and Das *et al.*, 1982). These variations may be due to breed difference and variation in body size of animals.

Based on the information obtained from this study, it was concluded that the size of genital organs of teddy goat increases with age during 12-18 months to 24-30 months of age.

Table1 Mean (± SD) values for biometry of cervix and body of uterus of Teddy goat belonging to group A& B

Organ	Parameter	Group A	Group B
		(n=60)	(n=60)
Cervix	Length (cm)	3.56 ^a ± 0.04	3.92 ^b ± 0.05
	Width (cm)	1.34 ^a ± 0.06	1.87 ^b ± 0.08
Body of Uterus	Length (cm)	1.18 ^a ± 0.08	1.55 ^b ± 0.06
	Width (cm)	1.53 ^a ± 0.10	1.82 ^b ± 0.11
	Thickness (cm)	0.21 ^a ± 0.07	0.26 ^b ± 0.06

Table 2 Mean (\pm SD) values for biometry of horn of uterus, fallopian tube and ovaries of Teddy goat belonging to group A&B

Organ	Parameter	Group A (n=60)		Group B (n=60)	
		Right◻♦	Left◻♥	Right◼♦	Left◼♥
Horn of Uterus	Length (cm)	11.42 ^a \pm 0.39	11.67 ^a \pm 0.40	13.51 ^b \pm 0.27	13.76 ^b \pm 0.32
	Width (cm)	1.63 ^a \pm 0.33	1.43 ^a \pm 0.25	1.78 ^b \pm 0.34	1.72 ^b \pm 0.34
	Thickness (cm)	0.37 ^a \pm 0.09	0.36 ^a \pm 0.07	0.51 ^b \pm 0.06	0.51 ^b \pm 0.04
Fallopian Tube	Length (cm)	14.96 ^a \pm 0.26	15.03 ^a \pm 0.19	15.23 ^b \pm 0.23	15.28 ^b \pm 0.25
Ovaries	Length (cm)	1.61 ^a \pm 0.08	1.44 ^a \pm 0.04	1.77 ^b \pm 0.09	1.70 ^b \pm 0.08
	Width (cm)	1.19 ^a \pm 0.04	1.16 ^a \pm 0.03	1.35 ^b \pm 0.03	1.33 ^b \pm 0.05
	Thickness (cm)	0.77 ^a \pm 0.06	0.74 ^a \pm 0.07	0.95 ^b \pm 0.06	0.91 ^b \pm 0.05

Values sharing different superscripts in the same column differed significantly (P<0.01)
Groups sharing similar symbols were compared

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