

BIOMETRY OF GENITAL ORGANS IN IRAQI FEMALE BUFFALO

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ABSTRACT

Ninety - three of grossly normal buffalo genital tracts were under taken in this study . The mean length , width , thickness , and weight of the right ovary devoiding functional corpus luteum (CL) were 2.39 ± 0.77 cm , 1.55 ± 0.46 cm , 1.19 ± 0.31 cm and 3.12 ± 2.11 gm , respectively , And 2.139 ± 0.65 cm , 1.53 ± 0.35 cm , 1.25 ± 0.3 cm and 3.14 ± 1.86 gm , for the left one respectively . The mean length , width , thickness and weight of right ovary containing functional CL were 2.61 ± 0.52 cm , 1.59 ± 0.45 cm , 1.53 ± 0.24 cm and 4.79 ± 1.59 gm respectively , and 2.88 ± 0.60 cm , 2.34 ± 0.38 cm , 1.48 ± 0.15 cm and 5.54 ± 1.23 gm for the left one , respectively .the mean diameter of the largest six follicles located on the right ovary was 1.42 ± 0.19 cm , and 1.41 ± 0.1 cm of six follicles on left ovary. The mean Length of prominent part of the 15 functional CL found on the right ovary was 0.57 ± 0.17 cm and it was 0.57 ± 0.21 cm on the left one . while the mean length and weight of those 15 functional CL of the right ovary were 1.51 ± 0.18 cm and 1.31 ± 0.52 gm , and on the left ovary they were 1.75 ± 0.93 cm and 1.7 ± 0.57 gm. The mean length , diameter and number of caruncle of the right uterine horns were 23.76 ± 8.14 cm , 2.12 ± 0.6 cm and 84.63 ± 13.62 respectively , and they were 23.34 ± 7.96 cm , 2.10 ± 0.58 cm and 84.12 ± 13.27 of the left horns respectively. the mean length and numbers of uterine body caruncles were 1.37 ± 0.75 cm and 6.27 ± 1.92 . the mean length, diameter and number of annular rings of cervix were 5.33 ± 0.96 cm , 2.58 ± 0.64 cm and 4.7 ± 0.61 , respectively.

قياسات اعضاء الجهاز التناسلي الانثوي في الجاموس العراقي

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الخلاصة

اجريت الدراسة على 93 جهازا تناسلي طبيعي جمعت من اناث الجاموس بعد ذبحها مباشرة في مجزرة الفضائية. جهزت العينات لدراسة قياسات الاعضاء المختلفة للاجهزة التناسلية ز كانت معدلات طول وعرض وسمك ووزن المبيض الايمن الغير حاوي على جسم اصفر فعال (2.39 ± 0.77) سم و (1.55 ± 0.46) سم و (1.19 ± 0.31) سم و (3.12 ± 2.11) غم على التوالي (2.39 ± 0.65) سم و (1.53 ± 0.35) سم و (1.25 ± 0.3) سم و (3.14 ± 1.86) غم للمبيض الايسر على التوالي. كانت معدلات طول وعرض وسمك ووزن المبيض الايمن الحاوي على جسم اصفر فعال (2.61 ± 0.52) سم و (1.59 ± 0.45) سم و

(1.53 ± 0.24) سم و (4.79 ± 1.59) غم على التوالي و (2.88 ± 0.60) سم (2.34 ± 0.38) سم (1.48 ± 0.15) سم و (5.54 ± 1.23) غم للمبيض الايسر على التوالي ايضا. ان معدل قطر اكبر 6 جريبات على المبيض الايمن ومثلها على المبيض الايسر كان (1.42 ± 0.19) م و (1.41 ± 0.1) سم. سجلت الدراسة وجود 15 جسم اصفر فعال على المبيض الايمن و 11 على المبيض الايسر. كان معدل طول الجزء البارز من ال 15 (0.57 ± 0.18) سم. ومن ال 11 (0.52 ± 0.21) سم. اما معدلات طول ووزن الجسم الاصفر الفصالي فكانت (1.51 ± 0.18) سم (1.31 ± 0.52) غم للايمن و (1.73 ± 0.39) سم و (1.77 ± 0.57) غم للايسر على التوالي. اما معدل طول قناة البيض اليمنى واليسرى فكانت على التوالي (20.73 ± 3.5) سم و (20.66 ± 3.25) سم. ان معدل طول وقطر وعدد اللحيمات المسجلة في القرن الايمن للرحم كانت (23.76 ± 8.14) سم و (2.12 ± 0.6) سم و (84.63 ± 13.62) على التوالي وللقرن الايسر فكانت (23.34 ± 7.96) سم و (2.1 ± 0.58) سم و (84.12 ± 13.27) على التوالي. اما معدل طول وعدد اللحيمات في جسم الرحم هي (1.37 ± 0.75) سم و (6.27 ± 1.92) وكان معدل طول وقطر وعدد حلقات عنق الرحم (5.33 ± 0.96) سم و (2.58 ± 0.64) سم و (4.7 ± 0.61) سم، على التوالي.

INTRODUCTION

Iraqi buffaloes are reared as multipurpose animals and that is for their milk, meat and skin production (1). Biometric data of normal females genitalia is essential to compare it with those having reproductive disorders. Such measurements are helpful in diagnosing different abnormalities that could uterus the acceptable range of normal measurement of each organ(2,3) Since there is very little references concerning biometric study of the female genital tract in Iraqi buffaloes, we planned to investigate such subject for the prevalence of our knowledge and to refer it as a nucleus for further study.

MATERIALS AND METHODS

Ninety – three normal genital tracts of female buffalo were collected freshly from Al – Fthalia abattoir at Baghdad suburban during the period from April to September 1998 . Each organ was cleaned and examined for its dimension and other available data. Each ovary was examined according to (4 and 6). For its size (length, width and thickness) and weight depending on the presence or absence of the functional CL length and weight of each functional CI. were also taken. Diameter of large follicles, which were more than 1.4 cm, were also recorded.

Oviducts were examined for their length and patency (free passage of colored fluid through each duct)

The length , external diameter at the area of bifurcation and the number of caruncles in each uterine horn and body were also recorded. Cervix was examined for its length, external diameter and number of annular rings . statistical analysis was applied according to (5).

RESULTS

The shape of the ovaries in Iraqi buffaloes was oval in the majority of the specimens examined , the genital organs of Iraqi buffaloes are smaller in size and paler in color than those of cows. The mean \pm S D length, width, thickness and

weight of right and left ovaries in table 1 were 2.45 ± 0.71 cm, 1.66 ± 0.49 cm, 1.28 ± 0.33 cm, 3.47 ± 2.07 gm and 2.43 ± 0.62 cm, 1.62 ± 0.42 cm, 1.28 ± 0.28 cm, 3.44 ± 1.88 gm respectively. The mean length, width, thickness and weight of 78 right ovary and 82 left ovary dividing functional CL were 2.39 ± 0.77 cm, 1.55 ± 0.46 cm, 1.19 ± 0.31 cm, 3.12 ± 2.11 gm and 2.39 ± 0.65 cm, 1.53 ± 0.35 cm, 1.25 ± 0.3 cm, 3.14 ± 1.86 gm respectively. The biometric values of 15 right and 11 left ovaries with functional CL were 2.61 ± 0.52 cm, 1.59 ± 0.45 cm, 1.53 ± 0.24 cm, 4.79 ± 1.59 gm and 2.88 ± 0.6 cm, 2.34 ± 0.38 cm, 1.48 ± 0.15 cm, 5.54 ± 1.22 g, respectively (Table 1).

Results of table 2 represents the mean diameter of largest 6 follicles on right and left ovaries (1.42 ± 0.19 cm and 1.41 ± 0.16 cm) as well as the mean length of the protruded part and whole the length and weight of 15 functional CL on the right ovary and 11 on the left ovary (0.57 ± 0.18 cm, 1.51 ± 0.18 cm, 1.31 ± 0.52 gm and 0.52 ± 0.21 cm, 1.73 ± 0.39 cm, 1.7 ± 0.57 g respectively).

Mean length of 92 right and 91 left oviducts were found to be 20.73 ± 3.5 cm (range 14-32 cm) and 20.66 ± 3.25 cm (range 12.6 - 28 cm). The oviduct patency showed one closed on the right and two on the left (Table 3).

Mean length, diameter, and number of caruncles in the right uterine horn were 23.76 ± 8.14 cm, 2.12 ± 0.6 cm and 84.63 ± 13.62 respectively. In left horn they were 23.34 ± 7.26 cm, 2.1 ± 0.58 cm and 84.12 ± 13.27 , respectively. In uterine body the length and number of caruncles were 1.37 ± 0.75 cm and 6.27 ± 1.92 respectively (table). While the length, diameter and number of annular rings of the cervix were 5.33 ± 0.96 cm, 2.58 ± 0.64 cm and 4.7 ± 0.61 (table 3).

Table 1 :- Represents dimensions (cm) and weight (g) of right ovary in Iraqi female buffalo (Mean \pm SD).

Sample	Number	Length(cm)	Width (cm)	Thickness(cm)	Weight (g)
Right ovary	93	2.45 ± 0.71	1.66 ± 0.49	1.28 ± 0.33	3.47 ± 2.07
Right ovary devoiding functional CL	78	2.39 ± 0.77	1.55 ± 0.46	1.19 ± 0.31	3.12 ± 2.11
Right ovary containing functional CL	15	2.61 ± 0.52	1.59 ± 0.45	1.53 ± 0.24	4.79 ± 1.59
Left ovary	93	2.43 ± 0.62	1.62 ± 0.42	1.28 ± 0.28	3.44 ± 1.88
Left ovary devoiding functional CL	82	2.39 ± 0.65	1.53 ± 0.35	1.25 ± 0.3	3.14 ± 1.86
Left ovary containing functional CL	11	2.88 ± 0.6	2.34 ± 0.38	1.48 ± 0.15	5.54 ± 1.23

Table 2: Represents diameter of the largest follicles and measurements and weight of functional CL (mean \pm S D)

Largest follicle	Number	Diameter (cm)	Functional CL			
			Number	Prominent part (cm)	Total length (cm)	Weight (g)
Right ovaries	6	1.43 \pm 0.19	15	0.57 \pm 0.18	1.51 \pm 0.18	1.31 \pm 0.52
Left ovaries	6	1.41 \pm 0.16	11	0.52 \pm 0.21	1.73 \pm 0.39	1.7 \pm 0.57

Table 3: represents the length of opened oviduct and the length, diameter and number of annular rings of cervix.(mean \pm SD)

Side of oviduct	Number of opened oviduct	Length of opened oviduct	93 Sample	Average
Right oviduct	92	20.73 \pm 3.5	Length(cm)	5.33 \pm 0.96
Left oviduct	91	20.66 \pm 3.25	Diameter(cm)	2.58 \pm 0.64
			Number of rings	4.7 \pm 0.61

Table 4: represents length, diameter and number of caruncle in body and uterine horns. (mean \pm S D) -

93 Sample	Length(cm)	Diameter (cm)	Number of caruncles
Right horn	23.76 \pm 8.14	2.12 \pm 0.6	84.63 \pm 13.62
Left horn	23.34 \pm 7.96	2.1 \pm 0.85	48.12 \pm 13.27
Uterine body	1.37 \pm 0.75	---	6.27 \pm 1.92

DISCUSSION

The ovary of Iraqi buffaloes in general is oval and the mean ovarian size containing functional CL is larger than those devoiding such as structure, these finding agrees with results of (4 and 7). The measurements of length ,width, thickness and weight of both ovaries containing functional cyclic CL were lower than those of pregnant buffaloes recorded by (7) in Iraqi buffaloes and (1) in Geffery buffaloes , however our results agree with the finding of (4) In Egyptian buffaloes , and also with (1) in Morrha buffaloes, these differences could be attributed to the reproductive status , nutrition and breed(1).

The right ovary in table 1.was found to be more active than the left one depending on the number of corpora lutea and follicles , these results agreed with finding of (8) in India buffalo . Abdul – Hameed in (7) found 17(77.27) fetus in the right horn and 5(22.72) fetus in left horn . On the other hand , we found that the ovarian size of Iraqi buffaloes is lower than the ovarian size of Iraqi cows(9). These differences could be due to species variation , open days period and milking period.

The mean length of the right oviduct was found more than that of left one , such results agreed with the finding of (1). In Surty and Morrha buffaloes but not in Jeffery buffaloes.

In conclusion , the biometric dimensions of genital organs of female Iraqi buffaloes are smaller in size and paler in color than that of cows. The right ovary is more active than the left one.

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