

The Incidence of Postpartum Metritis and Retained Placenta in Cattle and Buffalo Cows in some Villages Around Baghdad

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Abstract: This survey aimed to investigate the incidence rate of some reproductive problems especially retained placenta and metritis in cattle and buffalo cows to design appropriate manners for correction and treatment of such disorders of those two important animals in Iraq. A field survey was carried out on 257 cattle cows during 2011 and 290 during 2012 and 383 local water buffalo cows (*Bubalus bubalis*), during 2011 and 404 during 2012 in some villages around Baghdad (Al-Fudalia, 7 Nisan and Basmaia) where animals were reared. A complete data about case history, owner complains, clinical examinations for reproductive status, were documented by private clinics during 2011 - 2012. Results revealed that retained placenta percentage in cattle was 12.84, 12.41% during 2011, 2012 respectively, whereas it was 12.53, 12.62% during 2011, 2012 respectively in buffalo cows, in the case of uterine infections percentages, buffalo exhibited the highest percentages (40.46,37.87 %) during 2011, 2012 respectively in the comparison with cattle which showed 35.40, 35.17 % during 2011,2012 respectively. Highly significant differences ($p \leq 0.01$) between species were observed yearly and during some months during the years of study. We concluded that management programs differences and environmental changes may lead to monthly and yearly differences in reproductive disorders capability.

Keywords: Iraqi cattle, buffalo, reproductive disorders.

INTRODUCTION

A strong relationship between reproductive disorders and reduced fertility, buffaloes and cows are more prone to reproductive problems resulting in economic losses, although they seems to be same in pregnancy and parturition but there are some differences in anatomic and physiological aspects, [1] Reproductive inefficacy is one that causes low fertility resulting in the short reproductive life of the animals [2]. Major calving related problems include retained placenta (RP), uterine infection (UI), dystocia and prolapsed, which pose a great threat to production and reproduction efficiency of animals and many authors have investigated the various factors affecting the incidence of these disorders responsible for low reproductive efficacy [3, 4].

RP defined as the condition in which fetal membranes are not expelled from the uterus within period 12-24 hrs after expulsion of the fetus normally, expulsion occur within 3-8 hr after calf delivery [5]. It is economically one of the most important disturbance during the postpartum period because it affected herd health, milk production and reproduction efficiency [6]. RP is constituting (16.03%) from reproductive disorders

in Iraqi buffaloes [7] and as a substantial risk factor for toxic puerperal metritis in buffaloes [8].

UI is known metritis and cows normally have a red to brown discharge during the first two weeks after calving and if discharge persists beyond two weeks or if the discharge is foul – smelling this is evidence of metritis [9]. Predisposing factors of the UI such as RP, dystocia, and genital prolapsed are frequently found in buffaloes, and may induce high prevalence of metritis and endometritis [10]. RP is the most important factor leading to UI and toxic puerperal metritis, in every survey of the factors associated with reproductive disorders [11], and a lot of microorganisms were isolated from genital tract during different reproductive stages [12] endometritis was the most common abnormalities encountered, in Iraq we may show 20.13% cows suffered from uterine infections [13] and endometritis may be reached to 12.3% in Iraqi buffalo [14]. In Murrah buffaloes, the incidence of metritis is also demonstrated from 4 - 9.6% [15]. Cows that suffered from RP were at a significantly higher risk for developing metritis [16] and even subsequent abortion in the following pregnancy [17].

MATERIAL AND METHODS

This study was included cows (257), local buffalo cows (383) during 2011, and cows (290), local buffalo cows (404) during 2012. A full case history and owner

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complain of each animal was documented, general health condition and recto genital examination for gynecological, reproductive status and / or disorders were documented. Cows were considered to retain their placenta if it does not drop after 12 hrs post calving at least [18]. Data analyzed by using SAS, 2010 to study the different reproductive problems, the significant differences between incidence percentages of reproductive problems were compared by chi-square test [19].

RESULTS AND DISCUSSION

Results revealed that the percentages of RP in cattle were 12.84 and 12.41% during 2011 and 2012 respectively, while it was 12.53 and 12.62% during 2011 and 2012 in buffaloes respectively differences between two years were insignificant for two species

(Table 1), uterine infection percentages for Iraqi cattle were 35.40% at 2011 and 35.17% at 2012, whereas it was 40.46, 37.87 % for Iraqi buffaloes at 2011, 2012 respectively, the differences were insignificant between two years, (Table 1).

A significant differences ($p < 0.05$) were exhibited between cows and buffaloes in August, September and November at 2011 in RP, the same significant difference ($p < 0.05$) had been found in August, November and October between them in 2012, insignificant differences in RP between cows and buffaloes were shown at the other months in both years 2011 and 2012. Cows were differed significantly ($p < 0.01$) in RP between months in 2011 and 2012 respectively. Buffaloes also showed highly significant differences ($p < 0.01$) between months in 2011 and 2012 respectively, (Table 2).

Table 1: The Percentages of Retained Placenta (RP) and Genitalia Infections in Iraqi Cattle and Buffaloes During 2011-2012

No	years	Aspect	Cows affected (%)	Buffaloes affected (%)
1	2011	Retained placenta	12.84(36/257)	12.53(48/383)
2	2011	Genitalia infection	35.40(91/257)	40.46(155/383)
3	2012	Retained placenta	12.41(36/290)	12.62(51/404)
4	2012	Genitalia infection	35.17(102/290)	37.87(153/404)

Table 2: RP Numbers and Percentages in Iraqi Cattle and Buffaloes During 2011-2012

Month	Cows % during 2011	Buffalo cows % during 2011	Chi Square Value	Cows % during 2012	buffalo cows % during 2012	Chi Square Value
Jan	1(2.78)	3(5.88)	Ns	2(6.06)	3(6.25)	NS
Feb.	3(8.33)	4(7.84)	NS	2(6.06)	2(4.16)	NS
Mar.	1(2.78)	1(1.96)	NS	1(3.03)	2(4.16)	NS
April.	6(16.67)	5(9.80)		5(15.15)	6(12.50)	NS
May.	4 11.11)	4(7.84)	NS	3(9.09)	3(6.25)	NS
Jun.	3(8.33)	5(9.80)	NS	4(12.12)	4(8.33)	NS
Jul.	2(5.56)	3(5.88)	NS	1(3.03)	4(8.33)	NS
Aug.	6(16.67)	4(7.84)	4.77*	6(18.18)	3(6.25)	5.63*
Sep.	0(0.00)	7(9.80)	4.89*	1(3.03)	4(8.33)	NS
Nov.	9(25.00)	7(13.72)	5.02*	8(24.24)	8(16.67)	4.93*
Oct.	1(2.78)	6(11.76)	NS	0(00.00)	6(12.50)	5.02*
Dec.	0(0.00)	4(7.84)	NS	0(00.00)	3(6.25)	NS
Chi Square Value	10.17**	8.64**	10.08**	9.75**
Total	36(4.41)	51(6.58)	6.04**	33(40.7)	48(59.3)	6.48**

note: NS: non Significant, **: ($p \leq 0.01$), *: ($p \leq 0.05$).

Table 3: The Percentages of Metritis in Iraqi Cattle and Buffaloes During 2011-2012

Month	Cows % during 2011	Buffalo cows % during 2011	Chi Square Value	Cows % during 2012	buffalo cows % during 2012	Chi Square Value
Jan.	14(13.7)	6(3.87)	4.12*	12(13.2)	6(3.87)	4.67*
Feb.	4(3.92)	7(4.57)	NS	3(3.29)	7(4.51)	NS
Mar.	7(6.68)	4(2.61)	NS	7(7.69)	4(2.58)	NS
April.	11(8.10)	20(13.1)	NS	12(13.2)	20(12.9)	NS
May.	6(5.88)	8(5.23)	NS	5(5.49)	8(5.16)	NS
Jun.	8(7.84)	8(5.23)	NS	8(8.79)	8(5.16)	NS
Jul.	4(3.92)	6(3.92)	NS	3(3.29)	6(3.87)	NS
Aug.	16(15.7)	13(8.49)	NS	16(17.6)	13(8.38)	5.22*
Sep.	5(4.90)	11(7.19)	NS	4(4.39)	11(7.09)	NS
Nov.	21(20.6)	36(23.5)	NS	18(19.8)	36(23.2)	NS
Oct.	4(3.92)	24(15.7)	5.17*	2(2.19)	24(15.5)	5.17*
Dec.	2(1.96)	12(7.84)	NS	1(1.09)	12(7.74)	NS
Chi Square Value	9.54**	9.43**	9.12**	10.68**
Total	102(40.0)	153(60.0)	6.50**	91(36.9)	155(63.1)	7.83**

note: NS: non Significant, **: ($p \leq 0.01$), *: ($p \leq 0.05$).

Cows and buffaloes had insignificant differences in metritis among all months in 2011, except January and October which were differed significantly ($p < 0.05$). In 2012 metritis was exhibited a significant differences ($p < 0.05$) between cows and buffaloes in January, August and October only, but highly significant differences ($p < 0.01$) were observed between months among 2011 and 2012 in metritis for both cattle and buffalo cows, (Table 3).

The highly significant differences ($p < 0.01$) which had been observed between cattle and buffaloes in this study were due to many factors related with environment [20] management and housing programs [21] and nutrition [22]. RP in Iraqi buffalo cows ranged between 12.52-12.62%, it was less than its percentage (16.63%) which obtained by [7]. RP in Iraq cattle was more (12.41-12.84%) than its percentage (9.2%) which observed by [22]. The percentages of UI in Iraqi cattle and buffalo cows were less than those referred by [13] who suggested (20.13%). Recently [14] obtained an incidence of UI (17 %) in Mosul buffalo cows in Iraq which was less than our observations.

RP percentage constituted (16.03%) from reproductive disorders in Iraqi buffaloes [7], which was less than our finding. Metritis infections constitutes

about 20.0% of lactating dairy cows, with the incidence ranging from 8 to 40% in some farms [23, 24, 25] and these incidence of the various reproductive disorders can be minimized by installing skilled artificial insemination techniques and proper managements [26].

Obtained results were low rate percentages compared with the results in Pakistan by [27], prevalence of RP in buffaloes were 22.8% and UI in cattle were 12.7%, corresponding values were RP (30.6%), UI (11.3%), and this differences may be due to the difference in location countries. Even these reproductive problems are common in different areas of Pakistan we show incidence of 56.5 % UI and 23.2 % RP have been reported out by [28], but [29] show the prevalence rate of uterine infection in buffalo cows is much higher than in cows in Iran. RP in this study less than those showed by [21] who obtained the percentage of RP averaged 24.90% in buffalo cows, also in same rate percentages incidence of RP reported by [30] that varies from 2.2 to 37.3%. These variations could be attributed to the differences in breed, management, geographic environment and level of nutrition [31]. There are many factors influence the incidence of RP which includes; abortion, dystocia, multiple birth, concurrent diseases, age, nutrition,

season of the year and gestation length, the exact cause of RP is still unknown and this hampers the search for preventive and therapeutic measures [32].

We concluded that buffalo and cattle cows in Iraq were exhibited less rate percentages of reproductive disorders even they suffered from bad managements and environmental changes, so proper feeding, artificial insemination, cooling and housing is the right solution to decrease the incidence of reproductive disorders.

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