Short Communication

OCCURRENCE OF AFFECTIONS OF OVARY, UTERUS AND CERVIX IN GRADED MURRAH BUFFALOES - A RETROSPECTIVE STUDY

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ABSTRACT

A retrospective study was carried out to calculate incidence of various etiology responsible for repeat breeders in graded Murrah buffaloes during period of 2020-2021. The characterization of repeat breeding based on affections of reproductive tract in buffaloes (n=130), revealed that 6.92%, 75.38 and 17.70% had ovarian, uterine and cervical affections, respectively. Amongst the buffaloes with history of failure of conception, the most predominant cause of uterine affections was endometritis with an occurrence of 89.80 per cent (88/98).

Keywords: Buffalo, Cervical affections; Endometritis; Ovarian affections; Repeat breeder

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Buffaloes are important dairy animals in India as they have major share in milk production by about 45-47 per cent of the total milk produced in the country (Srivastava and Kumaresan, 2014). Buffaloes have significant contribution in agricultural GDP of the country. Hence, buffaloes are also commonly referred to as the black gold of India.

Buffaloes have lower reproductive efficiency and the various reasons are extended service period and calving intervals, with postpartum uterine infection alone contributing to around 30 per cent (Srivastava and Kumaresan, 2016). There is enough scope for improvement of reproductive performance of Indian buffaloes when compared to Mediterranean buffaloes with regards to reduced service period and calving interval (Srivastava *et al*., 2013). The key for optimum fertility in dairy cow and buffalo herds is the healthy or ambient uterine environment since any disturbances in endometrium affect the

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normal reproductive functions and culminated to infertility or sub fertility in terms of repeat breeding (Jabbour *et al*., 2009 and Sheldon *et al*., 2009). Among various etiological factors, the incidence of clinical endometritis in cattle and buffaloes was 14.20 and 25.80 per cent, respectively was responsible for repeat breeding syndrome (Singh *et al*., 2008).

There were no recent studies reported with respect to incidence of repeat breeding in buffaloes which were belonging to coastal Andhra Pradesh region. The present study was conducted to identify specific causes for conception failure (affections of ovary, uterus and cervix) in buffaloes.

A retrospective study was carried out to calculate incidence of various etiology responsible for repeat breeders in graded Murrah buffaloes during the period from 2020 to 2021.The present study included screening of postpartum lactating (2-4 parity and peak lactation period) graded Murrah buffaloes (n=130) with the history of failure to conceive even after three consecutive artificial inseminations (AI) with frozen semen. The occurrence of different causes of repeat breeding based on affections of the reproductive tract in buffaloes were derived from case records (with monthly abstracts) maintained in the Gynaecology Unit, Department of Veterinary Gynaecology and Obstetrics, NTR College of Veterinary Science, Gannavaram by considering the data obtained for a period of two years.

Buffaloes presented with the history of failure of conception were subjected to various diagnostic techniques to identify the cause of repeat breeding. The occurrence of affections of ovary, uterus and cervix were presented in Table I.

In the present study, 130 graded Murrah buffaloes with the history of failure of conception were subjected to various diagnostic techniques. The characterization of repeat breeding (failure of conception) based on affections of reproductive tract in buffaloes (n=130), revealed that 6.92%, 75.38 and 17.70% had ovarian, uterine and cervical affections, respectively. The ovarian affections included, cystic ovarian degeneration (44.45%), ovario-bursal adhesions (22.22%), ovarian tumours (33.33%). While, uterine affections included, cystic endometrium (2.04%), mucometra (3.06%), uterine tumours (2.04%), uterine adhesions (3.06%), endometritis (89.80%). Further, cervical affections included kinked cervix (52.17%), fibrosed cervix (26.09%), external os occlusion (8.70%) and nabothian cyst (13.04%). Amongst the buffaloes with uterine infection, the most predominant cause of uterine affections was endometritis with an occurrence of 89.80 per cent (88/98).

The causes of repeat breeding appeared to be multifactorial and included ovarian affections, uterine infections/affections and cervical abnormalities, nutritional deficiencies and lack of reproductive and health management. In the present study,

Table I. Causes of repeat breeding based on affections of reproductive tract in buffaloes (n=130)

No	Affections of reproductive tract	Number of buffaloes	Percentage (%)
I	**Ovarian affections**		**6.92**
	a. Cystic ovarian degeneration	4	44.45
	b. Ovario-bursal adhesion	2	22.22
	c. Ovarian tumour	3	33.33
	Total	**9**	**100.0**
II	**Uterine affections**		**75.38**
	a. Cystic endometrium	2	2.04
	b. Mucometra/Hydrometra	3	3.06
	c. Uterine tumour	2	2.04
	d. Uterine adhesion	3	3.06
	e. Endometritis	88	89.80
	Total	**98**	**100.0**
III	**Cervical affections**		**17.70**
	a. Kinked cervix	12	52.17
	b. Fibrosed cervix	6	26.09
	c. External os occlusion	2	8.70
	d. Nabothian cyst	3	13.04
	total	**23**	**100.0**
	Grand total	**130**	**100.0**

detailed clinical evaluations often portrayed the preponderance of endometritis in repeat breeding Graded Murrah buffaloes, which might be due to poor hygiene in environment, unhygienic and faulty insemination and possibly the wallowing habit of buffaloes (Azawi *et al*., 2008). However, variations in occurrence could also be attributed to the heterogeneity of causes of the repeat breeder syndrome as well as the effect of locality,

season, breed and sample size as opined by Prajapati *et al*. (2005).

Occurrence of repeat breeder buffaloes with palpable abnormalities of genitalia (32.30%, 42/130) recorded in the present study was higher than the findings of Hussaini (2021) who recorded the occurrence of repeat breeding as 25.88 per cent, whereas lower than the observation of Venkateswarlu (2019) who reported it as 53.50 per cent of buffaloes. Diagnosing the cause of failure of conception in individual animal was often extremely difficult and evaluations were oriented towards evaluating the changes in the reproductive tract, by transrectal palpation to rule out palpable abnormalities and combination with imaging by transrectal-ultrasonography were suggested (Purohit, 2008).

In dairy buffaloes postpartum uterine diseases are common disorders that directly affect production and reproductive performance. Buffaloes that had parturated freshly should be monitored regularly so as to have early detection of those animals that are suspected to develop the uterine disease. Providing clean and dust free area, early identification and treatment of dairy buffaloes are the essential practices to prevent / minimize the losses associated with uterine infections.

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