

ENUCLEATION OF CORPUS LUTEUM IN RESTORING FERTILITY
IN THE ANOESTRUS (SILENT OVULATOR) RED SINDHI x JERSEY COWS IN GOA

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Anoestrus is a major reproductive problem of economic importance in cattle production. However, all cases of absence of oestrus are not true anoestrous condition, although such affected animals are commonly termed as "anoestrous". A good percentage of such anoestrous cattle always consists of cases of silent ovulations, devoid of heat symptoms, which remain unbred due to unobserved heats. Luktuke and Sharma (1978) observed that silent oestrus was a common breeding problem (20% of anoestrus cases) in rural cattle in the north. In an infertility investigation in the cattle in Goa, Bhattacharyya and Pinto (1978) recorded similar high (20.7%), incidence of silent ovulations. This problem in large organized herds could be tackled considerably through teaser bulls. However, in small herds and in rural conditions, the use of teaser bull is not economically feasible. Enucleation of functional corpus luteum (C.L.) to induce oestrus and time breeding has been reported by various workers, as a measure to deal with this condition. In Goa, no systematic work with respect to cattle fertility and infertility aspects was carried out earlier. Considering all these, the present work was undertaken. In the present paper results of enucleation of corpus luteum in the Red Sindhi x Jersey silent ovulator cows, has been reported which is the first report of this kind from Goa.

Materials and Methods : Since a good number of animals having such affection is not readily available in the village at a particular place, the study was undertaken in an organized farm keeping in view of its applicability under rural condition. The materials for the study consisted of 19 Red Sindhi x Jersey anoestrus (silent ovulator) cows of the Goa Government Cattle Farm. An animal which did not evince heat for a long time after calving and which on gynaecological exploration was found to contain a functional C.L. on one of the ovaries but without any clinically detectable pathological condition, was considered a case of silent ovulation. C.L. was enucleated from the ovary per rectum as per the approved technique (Lagerlof 1965). Each animal was closely observed for any post-enucleation complication and subsequently carefully watched early morning, noon and evening at the shed and in the field during grazing for oestrus manifestation without the aid of a teaser bull. All animals were inseminated on the third and fourth days of the enucleation of C.L, irrespective of oestrus manifestations. Insemination was also done, subsequently, as and when an animal was detected in heat. Re-insemination was done on animals which repeated. Pregnancy was diagnosed per rectum on the sixth and eighth weeks.

Results and Discussion : All the animals maintained good health and no instance of post-enucleation fatality was encountered. It was seen that out of 19 animals 11(57.9%) experienced oestrus with varying degrees of intensity and mucus secretion, on an average

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interval of 6.7 days (4-9 days), which could be detected through careful watch without the aid of a teaser bull. Five (26.3%) animals, out of those repeated between 19 to 24 days and were reinseminated. Eight (42.1%) animals did not exhibit oestrus. These animals, on subsequent rectal examination on the 11th day, were found to contain no C.L. except a few small sized follicles on the ovaries indicating sub-functional condition.

It was observed that six out of eleven animals, which exhibited oestrus, did not repeat and became pregnant. Out of the rest five animals which repeated, four conceived on reinsemination. This gave a conception rate (out of the animals those evinced heat) of 54.5% and 36.4% at the induced and subsequent heats, respectively. Thus, over-all success obtained was 52.6% conception out of the total animals included in the study. It was interesting to note that pregnancy was obtained only in those animals which evinced heat although insemination was done in all animals on the 3rd and 4th day post enucleation, irrespective of heat symptoms. A number of workers reported about variable results of observable oestrus and conception after enucleation of C.L. Luktuke *et al* (1961) was of the opinion that the result was not always encouraging at the induced oestrus, whereas Gammelgaard (1967) reported about attainment of better conception rate in the 'reported' anoestrus cattle by heat induction through C.L. enucleation. Roberts (1971) reviewing extensively, reported that about 50 to 80% observable oestrus with a conception rate of 25 to 70% could be obtained out of which as high as 60% would conceive at the next heat after the induction of oestrus through removal of C.L. The present study in the Red Sindhi x Jersey cross-breds, showed similar trend as 57.9% animals manifested observable oestrus, out of which 54.5% and 36.4% settled at the induced and next oestrus, respectively. Thus it is apparent that while cent percent success cannot be expected a major portion of the problem of anoestrus due to silent ovulation can be successfully tackled, without the aid of a teaser bull for heat detection, by the enucleation technique, which may be particularly helpful in field condition. According to Lagerlof (1951) weak oestrus/silent oestrus might be the result of endocrine imbalance due to hereditary predisposition. Therefore, although the enucleation of C.L. could bring appreciable success in the management of silent ovulators as has been observed in the present study, it should be done judiciously only by trained veterinarian on selected cases avoiding the breeding herds where endeavour should be in the selection and breeding of animals having strong endocrine system.

Acknowledgement : The authors are thankful to Dr.R.C.Mandal, Joint Director, ICAR Research complex for Goa (CPCRI) and Shri V. G. S. Kakodkar, Director of Animal Husbandry and Veterinary Services, Govt. of Goa, Daman and Diu, for their keen interest, and providing facilities for the study.

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