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## Incidence of postpartum anestrus among crossbred cattle in and around Aizawl district of Mizoram

**Boro U, Talukdar DJ, Ahmed FA, Lalrintluanga K, Kalita G and Tolenkhomba TC**

#### Abstract

In the present study, it was planned to investigate the incidence and causes of postpartum anoestrus in and around Aizawl district of Mizoram. A total of 300 (three hundred) numbers of cows were examined per rectum after two months of calving to inspect the ovarian and genital status. Out of 300 numbers of cows, 60 (sixty) cows were did not showed oestrus signs within two months of calving, which were further diagnosed as postpartum anestrus. The main causes of postpartum anestrus in these cows were found as overobursal adhesion, cystic ovary, silent estrus, pyometra, metritis, anovulation, subestrus, smooth ovary.

**Keywords:** postpartum anestrus, crossbred cattle, Aizawl, Mizoram

#### Introduction

Mizoram is a hilly state. Almost 80% of the state is covered with forest. The people of this state are mainly small holding farmers and rears the small number of cattle mostly for milk and meat production. Profit of dairy industry depends on the sustained reproductive capacity of dairy animals. Reproductive problems are a common cause of profit loss. Anestrus can be defined as the state of ovarian acyclicity, reflected by complete sexual inactivity without manifestation of estrus<sup>[1]</sup>. Anestrus and infertility in the postpartum period of dairy cows were recognized as a problem for the first time more than 60 years ago<sup>[2]</sup>. Postpartum anestrus is the period after parturition during which cows do not show behavioural signs of estrus. An extended calving interval is a major component of poor reproductive efficiency and is generally attributed to low fertility. If the cow does not show regular estrus, conceive at the optimal time and deliver a healthy calf each year, the profitability and sustainability of the farm are compromised<sup>[3]</sup>. The high production of milk in dairy cattle often results in metabolic diseases during the early postpartum period<sup>[4, 5, 6]</sup>. During the first weeks of lactation, the dairy cows experienced a dramatic body condition loss due to lactation stress<sup>[7]</sup>. Moreover, metabolic disorders in this period are related to decreasing infertility. This type of energy deficiency may responsible for delaying the resumption of postpartum oestrous cycles and reduce the conception rate of the first insemination<sup>[8]</sup>. In the present study, it was planned to investigate the incidence and causes of postpartum anoestrus in and around Aizawl district of Mizoram.

#### Materials and Methods

A total of 300 (three hundred) number of cows were examined in and around Aizawl district of Mizoram *i.e.* Lungdai, Shiphir, Selesih, Ramthar, Leitan, Muthi and Bangkawn. Standard feeding and managerial practices were followed for all the animals. The animals were examined per rectum to study the ovarian and genital status after two months of calving and to evaluate the cause of postpartum anoestrus. Data were categorized according to causes based on clinical findings to calculate the incidence rates. The data were analyzed as per the method of Snedecor and Cochran<sup>[9]</sup>.

#### Results and Discussion

Out of 300 numbers of cows, the post-partum anestrus cow was recorded as 60 (sixty). The main causes of postpartum anestrus in these cows were found as ovaro-bursal adhesion

(6.66%), cystic ovary (10.00%), silent estrus (20.00%), pyometra (15.00%), metritis (16.66%), anovulation (13.33%), subestrus (11.66%), smooth ovary (6.66%). Pandey *et al.* [10], Chowrewar *et al.* [11] and Al Maruf *et al.* [12] recorded the incidence of post-partum anestrus as 16.47, 16.00 and 23.03 percent, respectively which was almost similar with the present finding. Kulkarni *et al.* [13] and Shiferaw *et al.* [14] recorded the incidence of post-partum anestrus as 45.97, 34.44 and 38.6 percent, respectively which was higher than that of the present study. On the other hand, Narladhkar *et al.* [15] and Acharya [16] got as low as 2.55 and 1.83 percent, respectively. These variations on the incidence of postpartum anestrus in crossbred cattle might be due to difference in breed, parity, season, level of nutrition, management conditions, and geographic environment. Kumar *et al.* [17] also reported the variation of incidence in post-partum anestrus among crossbred cattle from 2.55 to 40.4 percent, in different parts of the country.

In this study, silent estrus was found as the highest incidence *i.e.* 20 percent. In a study of 110 crossbred dairy cattle, Selvaraju *et al.* [18] recorded the incidence of silent anestrus (10%) and cystic ovary (3%), while Acharya [16] recorded the incidence of silent estrus as 6.66 percent in a study on 3553 crossbred cows and heifer of Assam.

### Conclusion

The main causes of postpartum anestrus was overbursal adhesion, cystic ovary, silent estrus, pyometra, metritis, anovulation, subestrus and smooth ovary.

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