

## **Cytological endometritis and its agreement with ultrasound examination in postpartum beef cows**

### **ABSTRACT**

**Background:** Endometritis, which is one of the most common diseases in dairy cows postpartum, causes severe economic losses, including increased open days, calving intervals, and numbers of services to achieve conception. **Aim:** This study aimed to evaluate the ultrasound method and its agreement with the endometrium cytology method, which is used to diagnose cytological endometritis in beef cows. Moreover, we determined which method has higher sensitivity and specificity at 4 and 5 weeks postpartum. **Materials and Methods:** The study was conducted 20-35 days postpartum. A total of 53 clinically healthy beef cows (28 Brangus and 25 Kedah–Kelantan breeds) from three beef farms were obtained. All cows were evaluated at 4 and 5 weeks postpartum, using ultrasound and cytobrush endometrial examination methods to diagnose cytological endometritis. **Results:** Endometrial cytology result showed that 11.3% (6/53) and 9.4% (5/53) of the cows exhibited cytological endometritis 4 and 5 weeks postpartum, respectively. A weak-to-moderate agreement found between the diagnostic methods ( $k=0.29 - 0.50$ ;  $p<0.01$  and  $k=0.38 - 0.49$ ) at 4 and 5 weeks postpartum respectively. **Conclusion:** The percentage of beef cows that were positive to cytological endometritis was low (polymorphonuclear cells,  $\geq 8\%$ ) at 4 and 5 weeks postpartum. Results showed that the ultrasound method is useful and practical for diagnosing endometritis 4 and 5 weeks postpartum. This method exhibited 60% sensitivity, 93.8% specificity, and a 0.50 kappa value, especially when presence of intrauterine fluids and measurement of cervix diameter used in combination.

**Keyword:** Beef cows; Cytology; Endometritis; Polymorphonuclear cells; Ultrasound