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Castration may detrimentally affect the health and performance of weaned calves, and painful procedures are increasingly becoming a public concern. The objective of this study was to determine the effects of castration (by banding) with or without administration of meloxicam, a non-steroid anti-inflammatory, on performance and inflammatory response in weaned beef calves. Forty-eight (weaned) beef calves [10.0±0.2 mo old; 304±6 kg BW] were blocked by age, BW, wither height, scrotal circumference, and source, then randomly assigned to 1 of 3 treatments (n=16 calves per treatment): 1) intact bulls (BULL), 2) castration by banding (BAN), or 3) castration by banding with orally-administered meloxicam (3 mg per kg BW on d 0 and 14; BAN+M). Calves were assigned to 8 pens (2 calves per treatment within each pen) one wk before treatment administration for acclimation to group housing. Body weight and plasma haptoglobin and fibrinogen concentrations were assessed on 0, 3, 7, 14, and 28 d after treatment. Rectal temperature was recorded at 5-min intervals for 14 d by dataloggers fitted to the calves on d 0. Data were tested for effects of treatment, day, pen, and treatment by day interaction using procedures for repeated measures. BULL gained more (0.69±0.12 kg/d; P<0.05) than BAN (0.15±0.11 kg/d) or BAN+M (0.14±0.11 kg/d) over 28 d. There was no effect of treatment (P=0.36) or treatment by day interaction (P=0.21) on mean plasma haptoglobin concentration. There was no effect of treatment (P=0.84) or treatment by day interaction (P=0.25) on mean plasma fibrinogen concentration. There was an effect of treatment (P<0.001) and a treatment by time interaction (P<0.001) on mean rectal temperature during the 14 d after treatment administration. Over 14 d, BAN+M had the greatest mean rectal temperature (39.47ºC±0.006ºC), BAN had the second greatest temperature (39.42ºC±0.006ºC), and BULL had the lowest temperature (39.41ºC±0.005ºC). Decreased ADG indicates that castration was painful regardless of pain abatement. Benefits of meloxicam were not evident from changes in growth performance or inflammatory response.

Keywords: calf, castration, non-steroidal anti-inflammatory