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Effect of meloxicam on gain and behavior of calves castrated by banding pre-weaning

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The objective was to determine if oral meloxicam (M; a non-steroid anti-inflammatory) administered at castration of pre-weaning calves affected ADG or behavior. Prior to castration (14 d), Angus bulls were assigned to bull (BULL; n = 7; age 106 ± 6 d; BW = 174.2 ± 7.7 kg; scrotal circumference 17.7 ± 0.4 cm), castrated (BAN; n = 12; age = 105 ± 5 d; BW = 144.5 ± 7.6 kg; scrotal circumference = 16 ± 0.4 cm) or castrated with meloxicam (BAN+M; n = 13; age = 121 ± 6 d; BW = 145.8 ± 6 kg; scrotal circumference = 16.1 ± .3 cm) treatments with consideration of potential as a herd sire. On d 0, BAN and BAN+M had a rubber band applied tightly around the scrotum, and BAN+M also received oral M (2 mg per kg BW). On d 0, 14 and 28, animals were weighed and a 10-ml blood sample was collected via the tail vein for plasma concentrations of haptoglobin and fibrinogen. Dataloggers were affixed to the left rear leg to record behaviors [mean lying time (h/d), mean lying bouts (n/d), and steps (n/d)] at 1-min intervals, moved to the right rear leg on d 14 and removed on d 28. Behavior data were tested for effect of treatment, day, and treatment by day interaction and ADG data were tested for effect of treatment, period (pre, d 0-14, and d 14-28) and treatment by period interaction using JMP procedures for repeated measures. Day 0-14 ADG was greater for BULL than BAN or BAN+M (P < 0.05), but no other time periods or groups differed. Plasma concentrations of fibrinogen were greater for BULL than BAN or BAN+M on d 28 and BULL, BAN and BAN+M on d 0 (P < 0.05). Plasma concentrations of fibrinogen on d 14 for BAN+M were greater than BAN and BAN+M on d 28 (P < 0.05). In the first 14 d period, BULL spent more time lying on d 2, 3 and 13 and less on d 8 and 11, took more steps on d 7,8,10,11, and 12, had more lying bouts on d 4 and 13 than BAN and BAN+M (P < 0.05). BULL had more lying bouts than BAN on d 3 and 14 and more than BAN+M on d 5, 6 and 12 (P < 0.05). BAN took more steps on d 8, and had fewer lying bouts on d 3 than BAN+M (P < 0.05). Castration of pre-weaned calves decreased ADG and altered behavior. Fewer steps and more lying bouts for BAN+M suggest pain abatement.

Keywords: calf, castration, behavior