The use of lidocaine-loaded castration bands to castrate beef-dairy calves and its effect on animal welfare and performance

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Introduction

Castration is a common management method among livestock producers and animal welfare concerns exist following castration. The study's aim was to compare behavior, performance and health measures between calves castrated with a lidocaine-loaded castration band (Lidoband™) to a standard band with no pain relief.

Materials and methods

In this blinded, randomized controlled trial, 26 individually housed male beef-dairy cross calves were followed 7-weeks post-banding. Measures of animal performance and health (ADG, G:F, clinical illness scores, wound healing) and animal behavior (wound licking, lying/standing, human approach test) were recorded to compare treatment groups. Linear mixed-effect models were used to determine potential associations between outcome measures and band type, time post-banding, and the potential time by treatment interaction.

Results

There were no significant differences between treatment groups on overall body weight, ADG, G:F, clinical illness scores, wound scores, and approach test. However, there was treatment differences in weekly ADG and G;F ($P < 0.05$). There was a significant treatment by time interaction between number of lying bouts and average stand bout time ($P < 0.05$). There was also a significant treatment difference in the number of wound licks ($P < 0.05$). Calves with the lidocaine-loaded band had a higher amount of lying bouts per day after day 35 and spent less time standing in a bout than the standard band calves between days 18 and 20.

Significance

Some behavioral differences between treatment groups were noted; however, calves banded with lidocaine-loaded castration bands did not statistically differ in overall performance compared to calves banded with standard bands. Pain mitigation is important to maintain good animal welfare during and post castration. Further research can aid in the identification of appropriate pain control strategies for beef calves.

