

EFFECTS OF CASTRATION IN MALE LLAMAS (*Lama glama*) ON HUMAN-DIRECTED AGGRESSION

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We sought to determine the effects of castration on human-directed aggression (HDA) in male llamas and to more precisely describe the behavior problem. Information was collected on 40 llamas (March–June 2006). Sixteen llamas (5 intact and 11 geldings) had a history of HDA (the “aggressive” group). Samples were also collected from 24 intact male llamas with no history of HDA (controls). Of the llamas sampled, all were >2 years of age; the mean age for both the aggressive and control groups was 7 years. Information obtained from the animals’ caretakers included age when aggressive behaviors began and peaked, occurrence of seasonal influence, what, if any, correction efforts were performed to correct the aggressive behaviors, and if castration improved behavior. In addition, questions adapted from the Canine Behavioral Assessment and Research Questionnaire (C-BARQ) [1] were included to analyze types of aggressive behavior displayed by llamas with a history of HAD. A two-tailed Student’s *t*-test was used to compare aggression scores from the C-BARQ adapted questions between aggression and control groups; significance was defined as $P < 0.05$. Aggressive episodes were first observed at 2.5 ± 1.1 years (mean $\pm$ S.D.). When asked the age the llama was most aggressive, the mean response was 2.9 ± 0.8 years. Ninety-three percent

of respondents reported the season had no effect on the level of aggression displayed and the remainder ($n = 1$) indicated the llama was more aggressive in the spring. From the C-BARQ-adapted questions, the mean aggression scores of the aggressive llamas were significantly higher than the mean scores of the control llamas for both stranger- and owner-directed aggression. Aggression toward other llamas was not significantly different between the aggressive and control groups. In an attempt to correct the human-directed aggressive behavior, respondents had tried a range of tactics, particularly castration, training with an experienced llama handler, and improved husbandry. Respondents that had castrated the llama reported moderately to much improved behavior 73% of the time, as opposed to 33% of aggressive llamas that remained intact. When both training (by owner or a more experienced llama handler) and castration were reported, 89% of respondents reported moderately to much improved behavior. Seventy-one percent of the llamas with a history of HDA had injured a person (two llamas had done so on more than six occasions).

Keywords: Llama; Camelid; Castration; Aggression; Behavior

Reference

- [1] Hsu Y, Serpell JA. Development and validation of a questionnaire for measuring behavior and temperament traits in pet dogs. *J Am Vet Med Assoc* 2003;223:1293–300.

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