

**TITLE:** Brazilian green propolis as a therapeutic agent in the post-surgical treatment of caseous lymphadenitis.

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#### **ABSTRACT:**

The treatment of caseous lymphadenitis with antibiotics is not effective, requiring the surgical excision of the lesions. A 10% iodine solution is currently the choice for the post-surgical treatment but may present histotoxicity. Considering that green propolis has proven to have antibacterial and wound healing properties, this study aimed to evaluate the use of a green propolis-based ointment as a post-surgical therapeutic in the post-surgical treatment of caseous lymphadenitis. Thirty-eight sheep were submitted to surgery for excision of caseous lesions, and then divided into two groups, (1) iodine treatment, and (2) treatment with green propolis ointment. Clinical data of the animals, the size of the scar area and the presence of moisture and purulent discharges at the surgical wounds, as well as the humoral immune response against the bacterium, were analyzed. The susceptibility and/or resistance of *Corynebacterium pseudotuberculosis* isolates obtained from the caseous material collected during the surgical procedure were evaluated through broth microdilution assay, where Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) against the ethanolic extract of green propolis were obtained. The green propolis-treated group completely healed the surgical wound one week before the iodine treated group, with fewer cases of purulent discharges, although not statistically different from the iodine-treated group. Green propolis concentrations of 1.0 and 2.0 mg/mL inhibited the growth of 52% of the isolates, whereas 15% of the isolates showed no sensitivity to the concentrations herein tested. 48% of the isolates presented MBC at concentrations of 1.0 to 2.0 mg/mL, and 33% of the isolates had MBC at 8.0 mg/mL. It is concluded that the green propolis ointment can be used in the post-surgical treatment of caseous lymphadenitis in small ruminants, due to its effects on wound healing, with a better esthetic effect after the final recovery of the animal.

**Keywords:** antimicrobials, *Corynebacterium pseudotuberculosis*, sheep, wound healing

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