Summary of the Ph.D thesis No.,**12534.** Faculty of Veterinary Medicine, Urmia University.
The academic year: 2023-2024

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Title: Therapeutic effects of propolis ethanolic extract on infectious bovine keratoconjunctivitis in cows

Summary:

Infectious bovine keratoconjunctivitis (IBK), commonly referred to as 'pinkeye,' is a prevalent ocular disease affecting cattle and caused by *Moraxella bovis*. Propolis, a natural substance collected by honeybees, is recognized for its diverse therapeutic properties, including antibacterial, antifungal, antiviral, and anti-inflammatory effects, along with its potential to promote wound healing and protect various organs. Given the substantial economic losses associated with IBK and the growing antibiotic resistance problem, this study aimed to explore the therapeutic potential of propolis' ethanolic extract in managing IBK-induced eye lesions in cows under field conditions. One hundred infected cattle aged between 8 months to six years old, organized into four distinct groups (n=25). Group I was treated topically with propolis ethanolic extract dissolved in glycerin (1000 µg/mL) once daily for four days. Group II was treated topically with tetracycline ointment (1%) once daily over the same four days. Group III received glycerin treatment once daily for four days, serving as a solvent control substance. Group IV, designated as the untreated control group, received no therapeutic intervention. Propolis ethanol extract improved all cases within 18 days while tetracycline improved only 84% of cases within 21 days. Remarkably, no discernible indicators of improvement manifested in group III and IV by the twentieth day of the investigative period. Propolis ethanol extract was able to resolve IBK eye injuries more completely in a shorter period than tetracycline. Therefore, it can be considered a good alternative compared to other antibiotics.

KEYWORDS: Cow, Infectious Bovine Keratoconjunctivitis, Pinkeye, Propolis Ethanolic Extract.