

ABSTRACT

While some *Ehrlichia* species, such as *E. ruminantium* and *E. minasensis*, are not popular even among veterinarians, they can infect cattle. The current study aimed to review studies on *Ehrlichia* spp. to evaluate its worldwide molecular prevalence, given the lack of information about bovine ehrlichiosis and the lack of previous systematic reviews and meta-analyses on this subject. In order to determine the molecular prevalence of *Ehrlichia* spp. in cattle, a systematic review of the literature was conducted in three databases. A meta-analysis with a random-effects model was performed to calculate the pooled prevalence with 95% confidence intervals (95% CI) and measures of heterogeneity were reported. Subgroup analyses were performed in terms of *Ehrlichia* species, country, and regions. The literature search yielded 1051 papers until August 1, 2019, with 71 studies entirely eligible for review. The pooled molecular prevalence for *Ehrlichia* at the individual level (N = 6232) was 2.3% (95% CI: 1.7-2.9%) with the highest value of 82.4%. Studies identified the highest pooled molecular prevalence of 6.6% (95% CI: 0.6-12.7%) for *E. canis*, followed by *E. ruminantium* (n = 4695, 75.33%) 52 studies, with 1.7% (95% CI: 1.1-2.3%) and *E. chaffeensis* with 1.5% (95% CI: 0.0-0.3%). Moreover, the obtained result was indicative of only one study addressing *E. minasensis*. As the findings suggested, heartwater (*E. ruminantium* infection) is a notifiable disease of domestic and wild ruminants, recorded by the World Organization for Animal Health. There is a possible risk of endemic heartwater in the Americas due to the climatic features. Furthermore, *E. minasensis*, *E. chaffeensis*, and *E. canis* were observed in cattle although the two last species could be a molecular misidentification with regard to their phylogenetic relationships with *E. minasensis*.
Uses of Immunoglobulins as an Antimicrobials Alternative in Veterinary Medicine.

Abd El-Ghany WA


ABSTRACT
As a result of increasing the resistance to antimicrobials in the field of veterinary medicine that reflects on human health, there is a great demand to use some drug alternatives. The application of avian immunoglobulins (IgY) is regarded as an important alternative strategy. The IgYs have been produced by several techniques and applied for animals using different methods. In addition, egg yolk IgYs have many advantages over blood type ones. There are many uses of IgYs in veterinary medicine. They have been used for the prophylaxis and treatment of different infections especially the enteric ones in cattle, pigs, rabbits, dogs, rats, mice, and fish species. Moreover, several studies showed the importance of IgY for competing for the in vivo enteric pathogens in poultry and the in vitro foodborne pathogen. Therefore, it is important to put a spotlight on applications of egg yolk immunoglobulins IgY in veterinary medicine to overcome the problems of antimicrobials’ resistance as well as the tissue residues that adversely affect human health.

**Keywords:** Advantages, Animals, Poultry, Production, Yolk antibodies

[Full text- PDF ] [XML] [Google Scholar] [Crossref Metadata]
ABSTRACT

This Negative energy balance (NEB) inevitably occurs in periparturient dairy cows. Its consequences are related to reduced cows' performances. Most studies concerning the NEB are performed in dairy cows of large-scale farms, particularly raised under non-tropical climate. The current study aimed to investigate the changes in body condition score, serum biochemical parameters, and liver triacylglycerol (TAG) accumulation in periparturient Holstein Friesian dairy cows raised by a small-holder farm. In this regard, 10 healthy pregnant dairy cows in a small-holder farm were recruited for the study. At 4 weeks before and 1, 2, 4, and 8 weeks after calving, blood samples were collected for determination of glucose, non-esterified fatty acid (NEFA), β-hydroxybutyrate (BHBA), and insulin-like growth factor-I (IGF-I) concentrations. BCS was evaluated at 4 weeks before and 2 weeks after calving. Liver samples were collected 4 weeks before and 2 weeks after calving to determine TAG concentration. Results revealed that serum NEFA and liver TAG concentration were elevated postpartum. Serum BHBA concentrations increased postpartum and the concentration indicated that dairy cows entered NEB condition as type I ketosis with a longer period. Serum IGF-I concentrations and BCS did not differ between before and after calving. In conclusion, dairy cows raised under small-holder tropical conditions suffered from serious NEB, though the cows had low milk production, as compared with the commercial non-tropical condition.

Keywords: Blood biochemistry, Dairy cow, Liver triacylglycerol, Negative energy balance, Small-holder farm
The present study was conducted to assess the safety and the efficacy of a vaccine containing the Algerian precocious strains of Eimeria magna, Eimeria media, Temim S, Ainbaziz H, and Bachene A.

**ABSTRACT**

In the current study to interrogate the occurrence of beta-lactamases genes in bacterial isolates, Four target genes, blaTEM, blaKPC, blaCTX, and blaSHV were amplified using a polymerase chain reaction, and compared with positive controls. Out of the 46 samples, 44 samples (95.7%) harbored beta-lactamases genes. The data indicated that sub-clinical mastitis in dairy goats in Thika Sub-county is associated with the bacteria carrying beta-lactamases genes, suggesting that the use of beta-lactam antibiotics for the treatment of sub-clinical mastitis may result in the treatment failure and potential transfer of the infectious bacteria to humans and other animals. The current study recommends the use of an alternative class of antibiotics for the management of beta-lactam-resistant bacteria.

**Keywords:** Bacteria, Beta-lactam resistance, Beta-lactamases, Sub-clinical mastitis.

**References:**


**Table:**

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Tekelan Leaves (Chromolaena odorata) Infusion and 10% Povidone-Iodine on Incision Wound Healing Process of Mice (Mus musculus)


Fig. 1: Effects of ethanolic extract of Dichrostachys glomerata on serum level of reproductive hormones in female guinea pigs.


ABSTRACT

Chromolaena odorata is a common plant in Indonesia that is used as a spice in the local kitchen. Wound healing is a complex process that involves several factors. This study aimed to investigate the effects of Tekelan leaves (Chromolaena odorata) infusion and povidone-iodine on the incision wound healing process of infected mice.

Keywords:
- Tekelan leaves (Chromolaena odorata)
- Infusion
- Povidone-Iodine
- Wound healing
- Mice
- Staphylococcus aureus
- Histopathology
- Povidone-iodine
- Skin
- Wound healing
The current study aimed to detect antibiotic-resistant bacteria in equine in Egypt. Klebsiella pneumoniae, Staphylococcus aureus, Pseudomonas aeruginosa, Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, and Stenotrophomonas maltophilia were isolated. A total of 203 isolates were sensitive to aztreonam and 20% of isolates sensitive to Piperacillin-tazobactam. All were sensitive to meropenem.

From June 2019 to April 2020, all samples were subjected to bacteriology analysis and isolated bacteria were sensitive to lomefloxacin, cefotaxime, meropenem, enrofloxacin, neomycin, and chloramphenicol. The indiscriminate and extensive use of antibiotics have led to the evolution of antibiotic-resistant bacteria in equine in Egypt. In conclusion, resistance monitoring data and risk assessment identified several direct and/or indirect predisposing factors to be potentially associated with MDR development in the equine health sector of Egypt. The predisposing disorders. The most predominant isolates were Staphylococcus aureus, Proteus mirabilis, and K. pneumoniae in infection. Gram-negative bacteria are commonly found in neonatal pneumonia although different samples were collected from 42 horse foals, 5 adult horses, and 4 donkey foals from six districts, in addition to the intervention of animal health service providers, and/ or farmers' lack of knowledge about drugs.

**Keywords:** Antimicrobial agents, Staphylococcus aureus, Pseudomonas aeruginosa, Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, Stenotrophomonas maltophilia, and emergence of antibiotic-resistant bacteria.
ABSTRACT

The present study was carried out to discover the protective and curative effects of alcoholic extracts of garlic (Allium sativum) and black seeds (Nigella sativa) on coccidiosis in rabbits infected with Eimeria magna. The study was conducted using experimental groups exposed to garlic pretreatment, garlic treatment, black seed pretreatment, black seed treatment, and control groups. The results showed that there were no significant differences in erythrocytes counts in all treatment groups. At the end of the experiment, the oocyst disappeared in garlic pretreatment groups, compared to the other groups. While oocyst counts of control positive and sulfadimidine positive, garlic pretreatment, and garlic treatment groups in comparison with other groups.

Similarly, the pathological changes in intestine, bone marrow, and liver were observed in control positive and sulfadimidine positive groups. In black seed groups, black seed pretreatment and black seed treatment groups, compared to the other groups.

The results showed that there were no significant differences in hematological parameters in all groups. In histopathological examinations, the oocyst was found to be present in control positive and sulfadimidine positive groups, while in black seed pretreatment and black seed treatment groups, the oocyst was not found. In garlic pretreatment groups, the oocyst was not found.

The results showed that garlic pretreatment and garlic treatment had a better effect on a prophylaxis and treatment for coccidiosis than garlic treatment and both had more beneficial effects, compared to black seed extract. Therefore, it is recommended to use garlic as a natural feed additive in rabbit feeding as a prophylaxis and treatment for coccidiosis.

Overall, the results of this study showed that garlic pretreatment had a significant effect on the prophylaxis and treatment of coccidiosis in rabbits infected with E. magna. The results also showed that garlic pretreatment had a better effect on a prophylaxis and treatment for coccidiosis than garlic treatment and both had more beneficial effects, compared to black seed extract. Therefore, it is recommended to use garlic as a natural feed additive in rabbit feeding as a prophylaxis and treatment for coccidiosis.
ABSTRACT

In most tropical countries, such as Indonesia, fasciolosis is generally caused by *Fasciola gigantica* known as tropical liver fluke. However, most fasciolosis serodiagnostic tests have been developed solely for diagnosing fasciolosis caused by *Fasciola hepatica* (non-tropical liver fluke), and very few have been specifically designed for *F. gigantica*. The aim of this study was to determine the profile of antigenic proteins from the somatic extract of *F. gigantica* isolated from Bali cattle (*Bos javanicus*). The liver flukes were collected from a slaughtering house in Mataram, Indonesia. The somatic extracts were prepared by homogenizing in buffers containing 0.05 M NaCl, 0.02 M PMSF, and 0.05% Triton X-100. The characterization of the somatic extract proteins was performed using one-dimension gel electrophoresis and followed by Western blotting to determine the profile of its antigenic proteins. There were 14 bands of the somatic extracts with an estimated molecular weight ranging from 8 to 105 kDa shown on the gel electrophoresis. The results of the Western blot show that there were five prominent protein bands. Three out of five prominent antigenic proteins with molecular weights of 8, 27, and 33 kDa are promising to enrich the existence of antigens that have immunodiagnostic value for fasciolosis. Therefore, further studies are required to examine more deeply the potency of those three antigenic somatic proteins of *F. gigantica*.

Keywords: Bali cattle, *F. gigantica*, Immunodiagnostic, Somatic extract, Western Blot