

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*.
**Keywords:** Bacteria, Bovine, *Ehrlichia*, Systematic review, Tick-borne

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**Review**

**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 \textit{in vivo} enteric pathogens in poultry and the \textit{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.

\textbf{Keywords:} Advantages, Animals, Poultry, Production, Yolk antibodies

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\textbf{Research Paper}

\begin{center}
\textbf{Changes of Body Condition Scores, Serum Biochemistry and Liver Triacylglycerol in Periparturient Holstein Friesian Dairy Cows Raised in a Small-Holder Farm.}
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Triwutanon S and Rukkwamsuk Th\textsuperscript{a}.

\textsuperscript{a}Abstract: The objective of this study was to investigate changes of body condition scores, serum biochemistry and liver triacylglycerol in periparturient Holstein Friesian dairy cows raised in a small-holder farm. The cows were divided into two groups: Group A (n=10) were fed a high-energy diet with a low-protein content, and Group B (n=10) were fed a low-energy diet with a high-protein content. The results showed that the cows in Group A had a lower body condition score and higher serum glucose and liver triacylglycerol levels than the cows in Group B.

\section{Results}

\subsection{Body Condition Scores}

The body condition scores of the cows were measured using the Henneke scale. The results showed that the cows in Group A had a lower body condition score than the cows in Group B (p<0.05).

\subsection{Serum Biochemistry}

The serum biochemistry of the cows were also measured. The results showed that the cows in Group A had higher serum glucose levels than the cows in Group B (p<0.05).

\subsection{Liver Triacylglycerol}

The liver triacylglycerol levels of the cows were measured using the HPLC method. The results showed that the cows in Group A had higher liver triacylglycerol levels than the cows in Group B (p<0.05).

\section{Conclusion}

The results of this study indicate that feeding a high-energy diet with a low-protein content to periparturient Holstein Friesian dairy cows can lead to lower body condition scores and higher serum glucose and liver triacylglycerol levels than feeding a low-energy diet with a high-protein content.

\textbf{Keywords:} Body condition scores, Serum biochemistry, Liver triacylglycerol

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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 aim of the present research was to determine the effect of both the gender of the offspring and dam's pre-partum vaccination on the composition and quality of colostrum in Egyptian buffaloes. Colostrum samples were collected at the birth time and 6, 12, 24, 48, and 72 hours after birth for four groups of pregnant dams (four animals in each group) during the dry period to compare their composition. Vaccination improved the same colostrum samples. Measuring the chemical composition of the colostrum, as well as levels of IgG and IGF-1, and the occurrence of the pathogens Eimeria magna, Eimeria media, and Eimeria suis were assessed. Vaccination improved the same colostrum samples. Measuring the chemical composition of the colostrum, as well as levels of IgG and IGF-1, and the occurrence of the pathogens Eimeria magna, Eimeria media, and Eimeria suis were assessed. Vaccination improved the same colostrum samples.

**Results**

Kaolin supplementation improved the following:

- Growth performance
- Immune response
- Antioxidative capacity
- Bone mineralization

**Conclusion**

The use of Kaolin as an inert ingredient in feed has been very common in the poultry industry, and the results of this study support its use as a growth promoter and health promoter in broiler chickens. Moreover, kaolin supplementation is beneficial in enhancing the antioxidant status, bone mineralization, and immune response of the birds, thus serving as an alternative to the use of beta-lactam antibiotics for the treatment of sub-clinical mastitis, which results in the treatment failure and potential transfer of the infectious bacteria to humans and other animals.
**ABSTRACT**

**Anadara granosa**

**Keywords:** Bacteria in Blood Cockle Satay (Anadara granosa) Sold at Surabaya Traditional Market, Indonesia.


**Bacteria in Blood Cockle Satay (** *E. coli* **) were contaminated with *mpn/gr for one sample, 3.0 mpn/gr for two samples, and 3.6 mpn/gr for three samples.**

**Escherichia coli**

However, it potentially accumulates pollutant substances, both heavy metal or microbial so that it can be sold at Surabaya traditional market. The current study used a descriptive observational research design with a quantitative approach. A total of 11 samples were employed using *E. coli* bacteria in blood cockle satay and positive indole. The Most Probable Number test for six samples indicated a value of <3.0 for five samples included.

**Blood Cockle,** *Cockle satay* is one of the Surabaya local food made from the blood cockle (** *Anadara granosa***),**ethanolic extract of *Dichrostachys glomerata* fruit.


**ABSTRACT**

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


**Chromolaena odorata,** ethanolic extract of *Dichrostachys glomerata* fruit.


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Pseudomonas aeruginosa, ampicillin-sulbactam, piperacillin-tazobactam, and cefoperazone.-resistant isolates which proved the antibiotic-resistant bacteria in equine in Egypt. Shahein MA and Ibraheem EM. was only sensitive to oxytetracycline and lomefloxacin. Rhodococcus equi, Proteus mirabilis, Staphylococcus aureus, Streptococcus equi, species were sensitive to penicillin, piperacillin-tazobactam, and lomefloxacin. Moreover, associated with MDR development in the equine health sector of Egypt. The predisposing factors to the different pathogens causing respiratory disorders in the equine, describe the antimicrobial resistance in these pathogens, and determine the types of antimicrobial isolates. A total of 203 isolates were sensitive to vancomycin 33.3% while 16.7% to erythromycin and doxycycline, was susceptible to Piperacillin-tazobactam (50%), 25% to lomefloxacin; isolated from all organs, including the lungs. All risk assessment identified several direct and/or indirect predisposing factors to be potentially followed by indiscriminate and extensive use of antibiotics. In conclusion, resistance monitoring data and knowledge about drugs. The misuse and overuse of antibiotics have led to the evolution of. disorders. The most predominant isolates were Streptococcus mitis, Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, Stenotrophomonas maltophilia.

Garlic as a natural feed additive in rabbit microscopically. The results obtained in the present study proved that garlic pretreatment had a marked beneficial effect on improving the lesions grossly and histologically. The control, positive, garlic pretreatment, and garlic treatment groups in comparison with other groups.

E. magna (Escherichia magna) was the dominant genus found (90%). On the other hand, other genera such as Staphylococcus, Bacillus, and Salmonella were also isolated. Staphylococcus was the most common genus, followed by Bacillus and Salmonella.

In conclusion, the study revealed that garlic pretreatment had a significant positive effect on reducing the number of oocysts and improving the overall health of the infected animals. Both garlic and black seed extract had beneficial effects on improving the lesions grossly and histologically.

Evaluation of Sensory Quality and Nutritional Value of Fish Cakes (Perkedel) Made by E. magna, Rabbit (Oryctolagus cuniculus), and Chemical Composition of Black Seed and Garlic Extracts.

Identification of Somatic Antigens of Adult Fasciola gigantica Isolated from Bali Cattle.

Sriasih M. and Munjizun A.


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