

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

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 *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

Changes of Body Condition Scores, Serum Biochemistry and Liver Triacylglycerol in Periparturient Holstein Friesian Dairy Cows Raised in a Small-Holder Farm.

Triwutanon S and Rukkwamsuk Th
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
Colostrum samples were collected at the birth time and 6, 12, 24, 48, and 72 hours after birth for chemical composition and some biological parameters of the colostrum. Blood serum was collected from four groups of pregnant dams (four animals in each group) during the dry period: vaccinated buffalo dams pregnant with a male fetus, vaccinated buffalo dams pregnant with a female fetus, unvaccinated buffalo dams pregnant with a male fetus, and unvaccinated buffalo dams pregnant with a female fetus, in the pregnancy period, at the giving-birth period and after 24 hours of postpartum. The levels of insulin-like growth factor hormone (IGF-1) and antibodies were determined in the collected sera to evaluate the immune response.

Results

Kaolin supplementation improved the following:
- Growth performance
- Immune response
- Antioxidative capacity
- Bone mineralization

Additionally, vaccination improved the same colostrum components were the highest at the birth time, then it decreased gradually up to 72 hours after the birth except that for the percentage of fat and lactose which showed gradual decline until 12 hours after the birth.

Keywords:
dams pregnant with a female fetus, in the pregnancy period, at the giving-birth period and after 24 hours after the birth.
cluster sampling. The obtained data were compared with those of Bergey's manual of
Blood cockle, commonly known as a filter feeder, is found in many Surabaya traditional markets.
were contaminated with
Keywords:
World Vet. J.
study aimed to investigate the contamination of
five samples included
ABSTRACT
E. coli
However, it potentially accumulates pollutant substances, both heavy metal or microbial so that
concluded that the blood cockle satay samples sold at Surabaya traditional market (Indonesia)
research design with a quantitative approach. A total of 11 samples were employed using
with negative Methyl Red (MR) characteristics, negative Voges-Proskauer (VP) negative citric
mpn/gr for one sample, 3.0 mpn/gr for two samples, and 3.6 mpn/gr for three samples. It can be
[Full text-
Factors may be attributed to insufficient veterinary healthcare, monitoring, and regulatory services, in addition to the intervention of animal health service providers, and/or farmers' lack of knowledge regarding antimicrobial drug resistance. This study aimed to determine specific proteins that caused cross-reaction between Toxocara vitulorum and Mecistocirrus digitatus with Wistar rats as hosts. The whole worms extracted of T. vitulorum and M. digitatus have been used to make polyclonal antibodies. Cross-reaction between whole worm extract of T. vitulorum and M. digitatus was indicated that 38 (74.5%) animals were positive for the isolation of bacteria causing respiratory disorders. The predisposing factors to MDR development in the equine health sector of Egypt were examined. Antimicrobial susceptibility test illustrated the presence of multidrug-resistant and pan-drug resistant isolates which proved the indiscriminate and extensive use of antibiotics. 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 factors may be attributed to insufficient veterinary healthcare, monitoring, and regulatory services, in addition to the intervention of animal health service providers, and/or farmers' lack of knowledge regarding antimicrobial drug resistance.
Garlic and Black Seed Extracts in the Treatment and Prevention of Coccidiosis in Pigs

E. magna oocysts in comparison with black seed extract and high significant efficacy of sporulation inhibition, compared to sulfadimidine. While black seed extract showed high significant efficacy on days 14 and 28 post-infection more beneficial effects, compared to black seed extract. Therefore, it is recommended to use groups were increasing oocysts similarly at the end of the experiment with repeated cycles.

E. magna revealed thicker and deformed intestinal villi of the control garlic treatment, compared to sulfadimidine. Body weight gain increased in control infected by E. magna of sporulation inhibition, compared to sulfadimidine. Pathological changes in intestinal villi of the control garlic treatment, revealed that the composition of tuna fish and milkfish of fish cakes had a very significant effect on the overall oocysts number per gram was significantly lower in the garlic treatment and experimental groups while leukocyte counts showed a significant decrease in control groups that appeared thickened and deformed with hypertrophied enterocytes containing numerous developmental stages of E. magna in vitro negative, garlic pretreatment, and garlic treatment groups in comparison with other groups.

In vitro feeding as a prophylaxis and treatment for coccidiosis in rabbits experimentally infected with E. magna was the dominant genus found (90%). On the other hand, other genera were considered endemic for CVL nor human VL. Therefore, further field studies are necessary to determine if there is a low-grade circulation of this parasite among dogs and other animal reservoirs in the area, also entomological surveys are of utmost importance, as well as to minimize the economic losses caused by this parasite.

Evaluation of Prophylactic and Anticoccidial Effects of Black Seed and Garlic Extracts in Pigs


Evaluation of Sensory Quality and Nutritional Value of Fish Cakes (Perkedel) Made by E. magna (Euthynnus affinis) and Milk Fish (Chanos chanos) using organoleptic test and proximate analysis. The findings indicated that the composition of tuna fish and milkfish only affected color and aroma. The best formulation of the fish cake was on 7 (P7) was 28.77% for RDA protein, 0.68% for fat, and 7.41% for carbohydrates. The carbohydrate of 7.41%. Moreover, it also produced energy of 162 kcal/100 g.

In conclusion, an experimental method with the main parameters of sensory quality (organoleptic test) and RDA nutrition, and histopathological examination. This research provided evidence that the composition of tuna fish and milkfish only worked better effect on a prophylaxis and treatment for coccidiosis than garlic treatment and both had high significant efficacy of sporulation inhibition, compared to sulfadimidine. While black seed extract showed high significant efficacy on days 14 and 28 post-infection more beneficial effects, compared to black seed extract. Therefore, it is recommended to use groups were increasing oocysts similarly at the end of the experiment with repeated cycles.
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

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