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Systematic Review


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

Research Paper
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 the dam’s pre-partum vaccination on colostrum composition. Colostrum samples were collected at the birth time and 6, 12, 24, 48, and 72 hours after birth for newborn calves and the pre-partum vaccination status of the dam (ScourGuard-4K) on the four groups described: 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, vaccination improved the same colostrum components except for IGF-1, which was not positively influenced by the vaccination. Generally, vaccination improved the same colostrum components except for IGF-1, which was not positively influenced by the vaccination. Generally, vaccination improved the same colostrum components except for IGF-1, which was not positively influenced by the vaccination. Generally, vaccination improved the same colostrum components except for IGF-1, which was not positively influenced by the vaccination.
Blood cockle satay samples sold at Surabaya traditional market (Indonesia) were contaminated with Escherichia coli, Staphylococcus aureus, and positive indole. The Most Probable Number test for six samples indicated a value of <3.0 per gram of food. An examination of the blood cockle (Anadara granosa) sold at Surabaya traditional market, Indonesia, revealed the presence of Escherichia coli, Staphylococcus aureus, and positive indole. The blood cockle, commonly known as a filter feeder, is found in many Surabaya traditional markets.

ABSTRACT

Blood cockle satay is one of the Surabaya local food made from the blood cockle (Anadara granosa) sold at Surabaya traditional market. The current study used a descriptive observational study aimed to investigate the contamination of blood cockle satay samples sold at Surabaya traditional market (Indonesia) with pathogenic bacteria. A total of 11 samples were employed using cluster sampling. The obtained data were compared with those of Bergey’s manual of determinative bacteriology and Indonesian national standard. Based on the obtained results, it was concluded that the blood cockle satay samples sold at Surabaya traditional market (Indonesia) were contaminated with pathogenic bacteria, specifically Escherichia coli, Staphylococcus aureus, and positive indole. The presence of these bacteria indicates potential health risks for consumers, as improper handling and processing can cause contamination. The present study highlights the importance of proper handling and processing practices to prevent bacterial contamination in food products.
ampicillin-sulbactam, piperacillin-tazobactam, and cefoperazone.

Keywords: MDR, K. pneumoniae, P. aeruginosa, S. maltophilia, S. zooepidemicus, P. mirabilis, R. equi, S. equi, T. vitulorum.

The current study aimed to detect and assess the 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 knowledge about drugs. The misuse and overuse of antibiotics have led to the evolution of antibiotic-resistant bacteria in equine in Egypt.

Streptococcus zooepidemicus, Proteus mirabilis, Rhodococcus equi, Stenotrophomonas maltophilia, Streptococcus equi were only sensitive to oxytetracycline and lomefloxacin. was susceptible to Piperacillin-tazobactam (50%), 25% to lomefloxacin; however, (one isolate) was only sensitive to clarithromycin.
The present study was carried out to discover the protective and curative effects of alcoholic extracts of garlic, black seed, and their combination on the infection of Eimeria magna in rabbits experimentally infected with repeated cycles. The experiment was performed to evaluate the prophylactic and curative effects of alcoholic extracts of black seed and garlic in relation to infected rabbits. The results showed that there were no significant differences in erythrocytes counts in all groups, compared to the other groups. Overall oocysts number per gram was significantly lower in the garlic treatment and pretreatment groups, compared to the control positive, sulfadimidine treatment, and black seed positive groups. While black seed extract showed high significant efficacy of sporulation inhibition, compared to sulfadimidine. Body weight gain increased in control positive, garlic pretreatment, and garlic treatment groups in comparison with other groups.

In conclusion, garlic pretreatment had a better effect on a prophylaxis and treatment for coccidiosis than garlic treatment and both had pathological changes in E. magna. Both garlic and black seed extract had beneficial effects on improving the lesions grossly and microscopically. The results obtained in the present study proved that garlic pretreatment had a more beneficial effects, compared to black seed extract. Therefore, it is recommended to use Garlic and black seed extract in the treatment of coccidiosis with a high level of protection and benefit to animals.
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