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*. 
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

[Full text- PDF ] [XML] [Google Scholar]
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 the dam's pre-partum vaccination status on the composition of colostrum and blood hormones in Egyptian buffaloes.

Colostrum samples were collected at the birth time and 6, 12, 24, 48, and 72 hours after birth for measuring the chemical composition of the colostrum, as well as levels of IgG and IGF-1.

**Results**

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

**Keywords:** Blood hormones, Colostrrogenesis, Egyptian buffaloes, Offspring sex, Vaccination.
ABSTRACT

The present study aimed to investigate the contamination of Blood cockle satay samples sold at Surabaya traditional market, Indonesia. Five samples were collected each month for a year. Cluster sampling was performed to collect five blood cockle satay samples from different market areas.

RESULTS

Blood cockle, commonly known as a filter feeder, is found in many Surabaya traditional markets. Five samples included E. coli, which is an aromatic plant used as a spice and ingredient in cooking. Anadara granosa, a table cattle, is used as a food product in Indonesia.

CONCLUSION

The obtained data were compared with those of Bergey's manual of E. coli. Concluded that the blood cockle satay samples sold at Surabaya traditional market (Indonesia) with negative Methyl Red (MR) characteristics, negative Voges-Proskauer (VP) negative citric acid, and oxidase positive results were infected with E. coli.

REFERENCES


ABSTRACT

Keywords: antimicrobial agents, pneumonia, Staphylococcus aureus, Klebsiella pneumoniae subsp. digitatus, M. digitatus.

This study aimed to determine specific proteins that caused cross-reaction between the helminth proteins and the anti-parasite antibody. The Western blot analysis was used to detect cross-reaction in Toxocara vitulorum protein with anti-M. digitatus serum. The results showed that the protein bands of 68, 59, 47, 31, 29, 26, 16, 12, and 10 kDa were found in the Western blot analysis. Cross-reaction occurred between the worm species which commonly infected people. Cross-reaction among worms can generate false positive to establish helminthiasis diagnosis through antibody inspection.

Keywords: echinococcosis, hydatid disease, sheep, echinococcosis prevalence.

The present study aimed to evaluate the effect of the agroecological zone, host age, and gender on the prevalence of gastrointestinal parasites in sheep. The faecal egg counts were analyzed for repeated measures using GEE. In total, three types of GIPs, namely nematodes, coccidia, and cestodes were identified in this study. The overall prevalence rates of nematodes, coccidia, and cestodes were 53.9%, 46.5%, and 4.3% in the Maseru district, respectively. The faecal egg counts for nematodes and coccidia were within the ranges of 0-20.3, 0-90, and 0-600 (July to December) in the Maseru and Quthing districts, Lesotho. A total of 1919 faecal samples were collected from sheep of different age and gender groups in different agroecological zones.
ABSTRACT
The present study was carried out to discover the protective and curative effects of alcoholic extracts of garlic and black seed on coccidiosis in rabbits. The main parameter of the study was the overall oocysts number per gram in comparison with black seed extract and high significant efficacy of sporulation inhibition, compared to sulfadimidine. While black seed extract showed high significant efficacy, garlic pretreatment had a marked effect on sporulation, histopathological examination, and histopathological examination.

Overall oocysts number per gram was significantly lower in the garlic treatment and black seed pretreatment groups. While oocyst counts of control positive and sulfadimidine pretreatment groups were significantly higher than those of the garlic treatment and black seed pretreatment groups. The results obtained in the present study proved that garlic pretreatment had a marked effect on sporulation, histopathological examination, and histopathological examination.

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In conclusion, garlic as a natural feed additive in rabbit coccidiosis is an effective and safe alternative to chemical drugs.

RECOMMENDED READING
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