



Prevalence of Rabbit Coccidia in Medea Province, Algeria

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ABSTRACT

Coccidiosis has an economic impact for poultry and livestock. The current study examined the prevalence of *Eimeria* infections in domestic rabbits in Medea province, North of Algeria. A total of 414 faecal samples were collected from 50 farms in six regions of the province. Each faecal sample was subjected to oocyst counting and isolation. The *Eimeria* species from samples containing isolated and sporulated oocysts were morphologically identified microscopically. The overall prevalence of coccidial infections was 47.6% (197/414). Weaners had the highest prevalence (77%, 77/100, $p < 0.0001$), followed by growing rabbits (46.8%, 30/64) and the adult rabbits showed the lowest prevalence (36 %, 18/50). In breeding rabbits, females were more infected with a prevalence of 40% ($p < 0.0001$). Eleven rabbit *Eimeria*'s species were present and identified from oocyst positive samples. *Eimeria magna* and *Eimeria media* were the most prevalent species (47.6% and 47.3%). Sulfonamides showed a better protection against rabbit coccidiosis than colistin and trimethoprim association ($p < 0.0001$, prevalence of 23.3% vs. 65.3% respectively). These results indicated that the prevalence of coccidiosis is high among the rabbit population in Medea province, North of Algeria. As a conclusion, it seems that the epidemiological situation of rabbit coccidiosis in Medea province must be taken into consideration in order to minimize the economic losses caused by this parasitosis.

Key words: *Eimeria*, *Oryctolagus cuniculus*, Rabbit, Sulfonamides

INTRODUCTION

Coccidiosis is the major parasitosis in poultry and other domestic animals, including rabbits: *Oryctolagus cuniculus* (Pakandl, 2009; Geru et al., 2016). It is one of the most important infectious causes of digestive disorders in rabbits (Pakandl, 2009; Geru et al., 2016). This disease is caused by intercellular protozoa parasites of the genus *Eimeria* and can be responsible for significant mortality in domestic rabbits (Pakandl, 2009). The symptoms of the disease include anorexia, diarrhea, body weight loss, poor feed conversion and even death to weaning rabbits (Pakandl, 2009). Eleven distinct *Eimeria* species have been identified in rabbits. Among these species, ten colonise the intestinal tract, invading and destroying intestinal cells, and causing anaemia, electrolyte imbalance and poor absorption of nutrients (Pakandl, 2009). *Eimeria stiedae* infects the biliary ducts of the liver. Hepatic coccidiosis is most often subclinical, but it can be the cause of poor feed conversion (Al-Mathal, 2008; Pakandl, 2009). All domesticated rabbit breeds can be infected by coccidia, especially the younger animals between one and four months of age (Drouet-Viard et al., 1997a; González-Redondo et al., 2008; Bachene et al., 2014; Bachene et al., 2018). The identification of these coccidia is based on the morphological characteristics of the oocysts and the sporulation time (Coudert et al., 1995; Pakandl et al., 2008). The site of infection and clinical signs can also guide the identification of coccidian species (Pakandl et al., 2008). In Algeria, the epidemiological situation of rabbit coccidiosis is almost unknown, Henneb and Aissi (2013) reported the prevalence of coccidia in Eastern Algeria rabbit breeding: *Eimeria magna* (43%), *Eimeria stiedae* (23%), *Eimeria media* (19%), *Eimeria perforans* (9%), *Eimeria exigua* (3%) and *Eimeria coecicola* (3%) and Maziz-Bettahar et al. (2018) reported the prevalence of rabbit coccidial infection in three regions in the north of Algeria: *Eimeria magna* (42.5%), *Eimeria media* (17.6%) and *Eimeria irresidua* (14.9%).

The present study was undertaken in Medea, a Northern agricultural province of Algeria, first, to investigate the natural prevalence of coccidial infections in different rabbit farms according to age, sex as well as chemoprevention, and second, to identify *Eimeria* species present in these farms.

MATERIALS AND METHODS

Ethical approval

This work was approved by the scientific council of the Higher National Veterinary School of Algiers, Algeria.

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