



ZERO PREVALENCE OF *Clostridium difficile* IN CANARY BIRDS UNDER ANTIBIOTIC TREATMENT

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INTRODUCTION

Clostridium difficile (CD) has been isolated from a wide variety of companion and farm animals. In birds, CD has been detected in poultry and wild passerine birds. For instance, in a previous prevalence study carried out in Slovenia, a 100% of fecal samples from 2-week-old chickens were culture positive for CD, and the colonization rate decreased with the age of the animals [1]. On the contrary, all 465 fecal samples from 6 different species of wild passerine birds were negative for the presence of CD [2], which represents the first report of a zero prevalence of this bacterium in an animal population. Due to the relatively high prevalence of CD in human populations, domestic animals and the environments surrounding both of them, CD is expected to be recovered also from pet birds. The aim of this work was to test this latter hypothesis using as a model a population of domestic canary birds.

MATERIAL AND METHODS

The studied population was reared in a single cage composed by several enclosures harbouring a total of 28 pairs. Early in their life (from hatching to day 10) animals were fed semi-solid food formula containing ketoconazole (estimated ingested dose = 20 mg/kg/sid) and cefaclor (50 mg/kg/sid) for antifungal and antibacterial prophylaxis, respectively. A total of 47 samples were taken from day 1 to day 14 posthatching from 4 individual enclosures. Feces were collected from nests with the help of a sterile cotton-tipped swab. To increase the probability of CD recovery, fecal samples were inoculated in liquid medium and incubated in anaerobic conditions at 37 °C for 8 days prior to ethanol shock and subsequent plating on solid selective medium (CLO agar, bioMérieux).



RESULTS

In spite of the culturing procedure used for the enrichment of anaerobic bacteria, CD was not recovered from any fecal sample. Therefore, here we report another avian population showing a zero prevalence of CD. Remarkably, and in clear contrast to the wild avian population studied by Bandelj et al. [2], the canary population surveyed in this study was under intense antibiotic treatment, thus potentially rendering it more susceptible to colonisation and/or infection by opportunistic microorganisms such as CD.



REFERENCES

- [1] Zidaric et al. 2008. Anaerobe, 14: 325-327.
- [2] Bandelj et al. 2011. FEMS Microbiology Letters, 321: 183-185.

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