

RECOVERY AND IDENTIFICATION OF BESNOITIA AND OTHER COCCIDIA FROM CAT FAECES AROUND KABETE IN KENYA

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RECUPERATION ET IDENTIFICATION DES OVOCYSTES BESNOITIA ET D'AUTRES COCCIDIES DES FECES DE CHATS DANS LES ENVIRONS DE KABETE AU KENYA

Résumé

Dans une étude portant sur l'infection coccidienne naturelle des chats dans les environs de Kabete, 50 échantillons de fèces de divers chats ont été examinés en vue de détecter des ovocystes coccidiens. Des ovocystes de *Besnoitia wallacei* (4%) ont été recueillis pour la première fois au Kenya. On a aussi récolté des ovocystes de *Isospora felis* (66%), *Isospora rivolta* (44%), *Sarcocystis muris* (4%) et *Toxoplasma gondii* (12%). Les ovocystes *Besnoitia* avaient une forme sphérique puis ellipsoïdale et mesuraient 16,6 à 14,5 μm de diamètre. 32 souris, 12 rats et 2 lapins inoculés par voie orale avec des ovocystes *Besnoitia* développaient des kystes caractéristiques de tissus. Deux chats nourris de carcasses de souris et de rats infectés excrétaient des ovocystes *Besnoitia* dans les fèces du 12^{ème} au 30^{ème} jour après l'infection.

Summary

In a study on the natural coccidial infection in cats around Kabete, fifty faecal samples from different cats were examined for coccidian oocysts. Oocysts of *Besnoitia wallacei* (4%) were recovered for the first time in Kenya. Oocysts of *Isospora felis* (66%), *Isospora rivolta* (44%), *Sarcocystis muris* (4%) and *Toxoplasma gondii* (12%) were also recovered. The *Besnoitia* oocysts were spherical to ellipsoidal in shape and measured 16.6 by 14.5 μm in diameter. Thirty two mice, 12 rats and 2 rabbits orally inoculated with *Besnoitia* oocysts developed characteristic tissue cysts. Two cats fed on infected mice and rat carcasses shed *Besnoitia* oocysts in faeces from day 12 to day 30 of infection.

INTRODUCTION

Besnoitia is a tissue cyst-forming coccidian parasite with a wide range of natural and experimental intermediate hosts. The final host has been identified as the domestic cat for *B. besnoiti*⁽¹⁾, *B. darlingi*⁽²⁾ and *B. wallacei*⁽³⁾.

Besnoitia was first described from cattle infection in France⁽⁴⁾. To date, at least six species have been identified in various parts of the world. *Besnoitia bennetti* of horses, burros and donkeys has been reported in Europe, America and Africa^(5,6,7,8). In South-West Europe, Africa and Asia^(9,10,11) *B. besnoiti* occurs in cattle and wild ungulates. Lizards and opossums harbour *B. darlingi* in America^(12,13). In North America⁽¹⁴⁾ *B. jellisoni* of kangaroo rats, mice and opossum has been

described. There are reports of *B. tarandi* of reindeer and caribou in America and Europe^(15,16,17) whereas *B. wallacei* of mice and rats has been reported in America, Japan, New Zealand and Australia^(3,18,19,20).

Besnoitia species are mainly identified by their characteristic polyzoic cysts with thick periodic acid schiff (PAS) positive walls. The oocyst morphology and sizes, geographical distribution, host specificity and serological tests may also be used to identify and differentiate between species^(20,21).

The objective of this study was to recover and identify coccidian oocysts from the cat in natural infections around Kabete (Kenya). It is hoped that the additional information would help in the further understanding of the epidemiology of coccidial infection in cats in Kenya.