

ORIGINAL RESEARCH

Exploring early life events including diet in cats presenting for gastrointestinal signs in later life

A. Kathrani, E. J. Blackwell, J. L. Williams, T. Gruffydd-Jones, J. K. Murray, M. Hezzell, E. J. Hall

Introduction

There is increasing evidence that early life exposures in people are important to chronic disease risk later in life. However, there are very few studies examining the effects of early life exposures on chronic disease risk in companion animals.

Therefore, this study aimed to identify early life events that may serve as risk factors for subsequent chronic gastrointestinal signs in cats. Identification of such factors would increase clinicians' understanding of disease pathogenesis, as well as enabling more efficient disease prevention and treatment.

Approach

Relevant data regarding four early life events were recorded from an owner-completed questionnaire for 1212 cats aged between eight weeks and 16 weeks. These events were: the names of commercial diets fed and whether each complied with the World Small Animal Veterinary Association global nutrition committee (WSAVA GNC) guidelines; proportion of diet fed that consisted of raw fresh food, cooked fresh food and cow's milk or cream; owner-reported vomiting and/or diarrhoea; and owner-reported presence of helminths in the faeces.

The owners completed subsequent questionnaires for the same cats when they reached the ages of six months, 12 months, 18 months and 30 months. These questionnaires were then reviewed to determine whether owners reported

KEY FINDINGS

- Cats with reported vomiting and/or diarrhoea and those not exclusively fed commercial diets that meet the World Small Animal Veterinary Association global nutrition committee guidelines before 16 weeks of age were more likely to visit veterinary practices specifically for gastrointestinal signs on two or more occasions between the ages of six months and 30 months.

visits to veterinary practices specifically for gastrointestinal signs on two or more occasions during the study period.

Univariable and multivariable ordinal regression models were constructed to assess associations between the four early life events and the frequency of owner-reported visits to veterinary practice specifically for gastrointestinal signs.

Results

Of the 1212 cats, 30 visited a veterinary practice specifically for gastrointestinal signs on two or more occasions between the ages of six months and 30 months.

Of the four early life events recorded, cats reported with vomiting and/or diarrhoea and those not exclusively fed commercial diet(s) that meet the WSAVA GNC guidelines before 16 weeks of age were more likely to visit veterinary practices specifically for gastrointestinal signs on at least two occasions between the ages of six months and 30 months ($P < 0.001$ and $P = 0.030$, respectively).

Interpretation

This study revealed that cats reported with vomiting and/or diarrhoea before 16 weeks of age were more likely to visit veterinary practices specifically for gastrointestinal signs on two or more occasions between the ages of six months and 30 months. The presence of gastrointestinal inflammation-causing episodes of vomiting and diarrhoea,

regardless of disease aetiology, in the cats under 16 weeks of age may trigger an initial overcompensated response, which may then lead to overactivation of the intestinal mucosal immune system leading to chronic inflammation.

Alternatively, episodes of gastrointestinal inflammation before 16 weeks of age may cause lasting changes in the microbiota or gut epithelial barrier, which may subsequently increase susceptibility to gastrointestinal inflammation, resulting in these cats being frequently presented to veterinary practices for their signs.

Therefore, determining the aetiology of vomiting and diarrhoea in cats under 16 weeks of age may help to identify areas for prevention, which may then reduce the number of cats presenting to veterinary practices specifically for repeated gastrointestinal signs.

Cats that were not exclusively fed commercial diet(s) that meet the WSAVA GNC guidelines before 16 weeks of age were also more likely to subsequently present to veterinary practices specifically for gastrointestinal signs on two or more occasions.

Feeding a diet that does not comply with the WSAVA GNC guidelines may raise concerns regarding the source of ingredients, nutritional composition and quality control of the diet – factors that may impact on the gastrointestinal mucosal immune system, microbiota and intestinal permeability. However, further studies would be needed to determine if any attributes of these diets are specifically implicated in disease pathogenesis.

Significance of findings

Ensuring that cats exclusively consume a commercial diet that meets the WSAVA GNC guidelines, particularly before 16 weeks of age, and further studies identifying specific aetiologies for vomiting and diarrhoea before 16 weeks of age to allow for prevention may reduce the number of cats presenting to primary care veterinary practices specifically for repeated gastrointestinal signs.

A. Kathrani, Department of Clinical Science and Services, Royal Veterinary College, London, UK

E. J. Blackwell, J. L. Williams, T. Gruffydd-Jones, M. Hezzell, E. J. Hall, Bristol Veterinary School, University of Bristol, Bristol, UK

J. K. Murray, Dogs Trust, London, UK
email: aakathrani@gmail.com

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