ANIMAL EXPOSURE IS COMMON IN IMMUNOCOMPROMISED POPULATIONS: QUALITATIVE SURVEY OF 184 PATIENTS

Greta Gurry¹, Chamath Premawardena¹, Veronique Campion¹, Don Bowden¹, Zane Kaplan², Jake Shortt², Tony Korman¹,², Ian Woolley¹,², Claire Dendle¹,³

¹Monash University, ²Department of Haematology, Monash Health, ³Monash Infectious Diseases, Monash Health

INTRODUCTION

- Immunocompromised hosts are susceptible to opportunistic infections
- Examples include Pasteurella species, Capnocytophagia species and Salmonella species
- Rates of pet ownership and potential infectious exposures from animals are infrequently reported in this population
- We examined the rates of pet ownership and participation in potentially infectious activities with animals in three populations at our institution

METHODS

- Cross-sectional study
- Standardised questionnaire of animal contact across three immunocompromised populations at a single institution
  - Human immunodeficiency virus (HIV)
  - Haemoglobinopathies (thalassaemia and sickle cell disease)
  - Haematological malignancies including chronic lymphocytic leukaemia (CLL) and lymphomas
- Pet contact data (number & type) and participation in potentially infectious activities were collected
- Potentially infectious activity was defined as one or more of:
  - Handling of faeces
  - Mucosal contact
  - Cleaning pet areas
  - Sleeping in/on the same bed
  - Sharing food
  - Allow animal on food preparation surfaces (fig. 2)
- Rates of patients receiving education regarding safe animal handling from their clinicians (general practitioner or specialist) were collected (fig. 3)
- The rate of zoonotic infections was not assessed

RESULTS

- 184 patients participated
- 99 (54%) owned pets
  - 68 (37%) owned dogs
  - 37 (20%) owned cats
  - 15 (8%) owned birds
  - 17 (9%) owned other animals including horses, reptiles and farm animals
- 80 (81%) of patients engaged in at least one potential infectious activity with their pets
- Patients with HIV were more likely to participate in at least one potentially infectious activity when compared to the other two groups (p=0.03)
- Only 17% of patients with pets recall receiving education regarding safe animal handling from their clinicians

LIMITATIONS

- Qualitative survey is subject to recall bias
- The rate of zoonotic infections in the study population were not assessed
- It is therefore not possible to correlate higher infection risk activities with rates of zoonotic infections

CONCLUSION

- The psychological benefits of pet ownership, particularly in disease, have been well described
- Patients are encouraged to keep their pets even when immunocompromised
- Patients should be educated in the safe handling of animals to reduce the chance of acquiring infections from their pets
- Many immunocompromised patients own pets (54%) and 61% engage in at least one potential infectious activity with their pets
- Only 17% of patients who owned pets were educated in safe animal handling
- Further research is required to investigate correlations between patient education and rates of zoonotic infections

Table 1: Demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total study group (n=184)</th>
<th>HIV (n=74)</th>
<th>Haemoglobinopathies (n=43)</th>
<th>Haematological malignancies (n=67)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td>50 (17-92)</td>
<td>42.5 (17-84)</td>
<td>39 (19-62)</td>
</tr>
<tr>
<td>Median (range)</td>
<td></td>
<td>37 (20%)</td>
<td>59 (80%)</td>
<td>17 (40%)</td>
</tr>
</tbody>
</table>

Figure 1: Pet ownership as per immunocompromised group

- HIV (n=37)
- Haemoglobinopathies (n=20)
- Haematological malignancies (n=38)

Figure 2: Participation in potentially infectious activities with pets

- Handling of faeces
- Mucosal contact
- Cleaning pet areas
- Sleeping in/on the same bed
- Sharing food
- Allow animal on food preparation surfaces

Figure 3: Percentage of patients with pets receiving education regarding safe animal handling from their clinicians

- HIV (n=43)
- Haemoglobinopathies (n=20)
- Haematological malignancies (n=36)

References