Prevalence of helminthic and protozoan infections in pigeons- in and around Hyderabad of Telangana state.

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Abstract

The present study was undertaken to observe the overall helminthic and protozoan infection of pigeons in and around Hyderabad city. Out of 370 fecal samples screened 90 samples were found positive for helminthic infection (24.3%), among these cestode infections has highest percent 15.1 (56/370) followed by nematode infection 9.1% (34/370) and protozoan infection is 32.7% (121/370). The percent infection, species wise are Raillietina sp. is 7.0% (26/370), Davainea sp. is 8.1% (30/370) Capillaria sp. is 4.32% (16/370) and Ascardia sp. is 4.86% (18/370). The percent of protozoan i.e., Eimeria infection (unsporulated oocyst) is 32.7% (121/370) and 12.59% of Haemoproteus columbae gamonts infection in stained blood smear (17/135). This concludes that the overall incidence of helminthic infection in pigeons is high because of migratory behavior and it is alarming the epidemiologists that scenario of migratory birds contributing significantly to the spread of parasitic diseases, a better understanding of their role in the disease epidemiology has to be gained by implementing surveillance and tracking strategies.

Keywords: Helminthic and protozoan infections, Gastro-intestinal parasites, Microbes, Columbiformes.

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Table 1. Prevalence of Gastro-intestinal helminth and protozoan parasites in pigeons.

<table>
<thead>
<tr>
<th>Protozoan parasite</th>
<th>Number of faecal samples examined</th>
<th>Number of positive samples</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raillietina sp.</td>
<td>370</td>
<td>26</td>
<td>7.0</td>
</tr>
<tr>
<td>Davainea sp.</td>
<td>370</td>
<td>30</td>
<td>8.10</td>
</tr>
<tr>
<td>Eimeria oocyst</td>
<td>370</td>
<td>121</td>
<td>32.7</td>
</tr>
<tr>
<td>Capillaria sp.</td>
<td>370</td>
<td>16</td>
<td>4.32</td>
</tr>
<tr>
<td>Ascardia sp.</td>
<td>370</td>
<td>18</td>
<td>4.86</td>
</tr>
<tr>
<td>Balantidium col cyst</td>
<td>370</td>
<td>21</td>
<td>5.70</td>
</tr>
</tbody>
</table>

Table 2. Prevalence of protozoan parasite in pigeons.

<table>
<thead>
<tr>
<th>Protozoan parasite</th>
<th>Number of blood samples examined</th>
<th>Number of positive samples</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoproteus columbae</td>
<td>135</td>
<td>17</td>
<td>12.59</td>
</tr>
</tbody>
</table>
Discussion

Prevalence of gastro-intestinal parasites

The present study depicting 38.4% prevalence for protozoa with the detection of *Eimeria* species oocyst (32.7%) [1] and prevalence of *Balanidium coli* cyst was 15.14%. In the present study *Davinea* sp. showed highest rate (8.1%) which is in contrast with findings of [10-12]. Where they recorded 44%, 80%, 63% prevalence of *Raillietina* species. In this study the prevalence of *Raillietina* species was 7%. Among nematodes, occurrence of *Ascaridia* species and *Capillaria* species were much lower than the observation made by the Rabbi et al. [13].

Prevalence of haemoproteozan disease

During the present study, blood parasites were quite abundant but their distribution and prevalence markedly varies from region to region and from one avian family to other Indian subcontinent. The relative frequency of *Haemoproteus columbae* found in this study in agreement with the Levine and Kantor; Desser and Bennett, found a range of 28-100% occurrence of *Haemoproteus* in domestic pigeons. *Haemoproteus* infection rate may be as high as 75% ranging from 6-86%. Because migratory nature of birds is indicative of local transmission and presumably gametocytomia with *Haemoproteus* species which is controlled by the physiology of the host species and infection [6, 7, 14-19].

Conclusion

The study was performed to determine the prevalence of gastro-intestinal and haemoproteozan infections in pigeons in and around Hyderabad. To explore overall idea about the distribution of the disease and also provides epidemiological status in the occurrence of parasitic diseases.

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References


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