

INVESTIGATION OF DISEASES IN YOUNG RACING PIGEONS

Scullion, F.T. and Scullion, M.G., 16 Cranlome Road, Ballygawley, Co Tyrone, Northern Ireland. BT70 2HS

Abstract

There are over 2,100 pigeon fanciers in N. Ireland with approximately 150,000 racing pigeons. Historically, the sport has had little veterinary intervention. Fanciers rely heavily on various concoctions of routine treatments and antibiotics obtained principally by mail order from overseas.

In recent years there have been increased losses of young birds, up to 90% in some cases. Traditionally, young pigeons are known to suffer from a variety of disease conditions including, trichomoniasis, capillariasis, coccidiosis, colibacillosis, paramyxovirus infection, chlamydiosis and salmonellosis. Recently megabacteriosis, adenovirus and circovirus infections have also been identified during routine pathology in some young birds. In the owner's hands an ill defined "young bird sickness" is the standard pigeon fancier's diagnosis for what may be a multifactorial entity.

This study involves the investigation of diseases in young racing pigeons.

Introduction

Young pigeon racing in N. Ireland takes place from July until September each year. Birds bred during the year are pitted against each other over distances ranging from about 80 to 400 kilometres for prize money of up to £3000. Obviously early bred young will have the benefit of more mature development and the majority of birds are thus bred for hatching in January, with most fanciers having their young weaned and well into training by May.

In this preliminary work the results of investigations of samples from young pigeons (i.e. birds born in the year under study) received in a veterinary practice are presented.

Samples received can be divided in to three major categories.

1. Samples taken during clinical examination and / or *post mortem* examination of young pigeons.
2. Faecal samples from young pigeons for parasitological examination.
3. Oropharyngeal swabs from young pigeons for cytological examination.

Material and Methods

Samples under investigation were presented for a number of reasons including; poor race performance and exercise intolerance to more obvious signs such as retained food in crop, vomiting, diarrhoea, sneezing, conjunctivitis, weight loss, fluffed up appearance and death.

Clinical examinations were carried out on groups of up to 6 live birds that were presented because of clinical illness in lofts of young pigeons. Birds were chosen by the owners to be representative of the condition they were concerned about. Birds were weighed and inspected for visual and palpable abnormalities of the head, eyes, ears, mouth, neck, body, wings, legs and feathers. In all cases samples of fresh droppings were collected for parasitological evaluation of a direct smear and examination after salt flotation. Cloacal swabs and crop washes were smeared for direct cytological evaluation and evaluation of Diff 3 (GCC Diagnostics, Flintshire, UK) and Gram (GCC Diagnostics) stained air dried smears.

In all cases financial constraints limited the extent of routine investigation requested by owners and only in selected cases were aerobic cultures carried out on tissues or samples as dictated by the initial clinical findings. Similarly, *post mortem* examinations were performed in selected cases only after initial clinical evaluations suggested further confirmatory diagnostic information may be of value.

Further, samples of 10 –100 g of pigeon faeces selected by the owner to represent the problems they were concerned about were submitted by post for examination as described above.

Also oropharyngeal swabs were collected by owners from three of their young birds that were representative of the problem they were concerned about. These were placed in trichomonas culture medium (Lab M, Bury, UK) and submitted by post for examination as described above for crop washes.

Results

Weights of birds examined ranged from 238g – 539g and averaged 363(n=26).

Table 1. The type of examination, the number of lofts and the number of birds in the lofts

TYPE OF EXAMINATION	NUMBER OF LOFTS REPRESENTED	NUMBER OF BIRDS REPRESENTED
CLINICAL / POST MORTEM EXAMINATION	16 LOFTS	848 BIRDS
FAECAL EXAMINATIONS	28 LOFTS	1536 BIRDS
OROPHARYNGEAL SWAB CYTOLOGY	14 LOFTS	444 BIRDS

Table 2. The diagnostic results of clinical examinations and post mortem examinations from 16 lofts representing 848 birds (66 % of the lofts presented with conditions of multifactorial aetiology).

CONDITIONS DIAGNOSED	CLINICALLY SIGNIFICANT FINDINGS	NUMBER OF LOFTS
PROTOZOAN	TRICHOMONAS (Canker)	8
	HEXAMITA	3
ECTOPARASITIC	COLUMBICOLA (Lice)	8
BACTERIAL	E.COLI	3
	STAPHYLOCOCCUS	1
	MYCOPLASMA	1
VIRAL	MIXED INFECTIONS	2
	ADENOVIRUS	1
	PIGEON PARAMYXOVIRUS (Titre)*	1
	CIRCOVIRUS	1
ENDOPARASITIC	CAPILLARIA	2
	ASCARIDIA	1
FUNGAL	CANDIDA (Thrush)	2
MISCELLANEOUS	IATROGENIC ULCERS	1
	TRAUMA	2
	NEPHRITIS OF UNKNOWN AETIOLOGY	1

*The significance of the high pigeon paramyxovirus titre depends on whether the pigeons were vaccinated or not.

Table 3. The diagnostic results of faecal examinations from 28 lofts representing 1536 birds.

CONDITIONS DIAGNOSED	NUMBER OF LOFTS AFFECTED	NUMBER REGARDED AS CLINICALLY SIGNIFICANT
COCCIDIOSIS	11	5
CANDIDIASIS (Thrush)	14	7
FUNGAL INFECTION	3	0
MEGABACTERIOSIS	3	0
CAPILLARIASIS	2	2
ASCARID INFESTATION	2	2

Table 4. The diagnostic results of oropharyngeal swab examinations from 14 lofts representing 444 birds.

CONDITIONS DIAGNOSED	NUMBER OF LOFTS AFFECTED	NUMBER REGARDED AS CLINICALLY SIGNIFICANT
TRICHOMONIASIS (CANKER)	12	3
CANDIDIASIS (THRUSH)	10	5
MIXED BACTERIAL INFECTION	7	4
FUNGUS	1	0

Discussion

Protozoal diseases were the most common cause of disease in this study. However multiple aetiological agents were common in individual lofts. As in other studies hexamita was diagnosed in cloacal swabs and fresh faecal smears (Pennycott, 1994; Hooimeijer, 1995). Virus diseases were only determined by means of histological lesions (adenovirus, circovirus) and serology (paramyxovirus). Due to the nature of the study it is likely that viral diseases were under-represented and further work is needed to determine the contribution of viridae to disease entities in young pigeons. Ectoparasites (lice) were also commonly seen and were regarded as indicators of illness.

Candidiasis was another common disease finding throughout the study. Classically, this disease is associated with either vitamin A deficiency or prolonged antibiotic administration. Both these factors deserve further study in relation to this fungal infection's role in diseases of young pigeons.

Fanciers rely heavily on various concoctions of routine treatments and antibiotics obtained principally by mail order from overseas. In many instances the contents of the treatments are unknown. Most birds are treated for coccidiosis, canker and worms routinely by owners and at the onset of any signs of ill health. The effectiveness of these home remedies may be a factor that influenced the results in this study. For instance there was no evidence of coccidia in birds that were clinically examined whereas coccidia were common findings in postal faecal samples albeit mostly at subclinical levels. This would suggest that home remedies for coccidia may have a beneficial effect. Conversely, trichomoniasis was a frequent finding despite many owners having used home remedies. Although most trichomoniasis remedies are imidazole based their effectiveness appears to be variable and this could be a dosage or duration of treatment effect. Worms were not a common finding in the study and thus home remedies may again be of benefit. When worm burdens were diagnosed they were always associated with clinical disease and when present *Capillaria* spp were associated with severe weight loss and death.

Conclusions

Young pigeons are affected by a number of disease conditions and in many lofts there is evidence that clinical disease is of multifactorial aetiology. Work is necessary to further define the entities that affect young pigeons and the term "young pigeon disease" also needs better definition.

By their nature faecal examinations and throat swabs on their own are limited in the extent of their diagnostic capability but when combined, the results show these two techniques in young pigeons are excellent preliminary investigative tools picking up quite a wide range of common disease causing agents.

Acknowledgments

Thanks to Department of Agriculture and Rural Development Northern Ireland for assistance with virus diagnostics. Also thanks to Clare Scullion for technical assistance.

References

- Hooimeijer, J. (1995): Cases of Hexamitiasis in Racing Pigeons. Proceedings Annual Conference Association of Avian Veterinarians pp 385-390.
Pennycott, T. (1994): Pigeon Diseases – Results from a Scottish Diagnostic Laboratory. Proceedings Annual Conference Association of Avian Veterinarians pp 231-239.