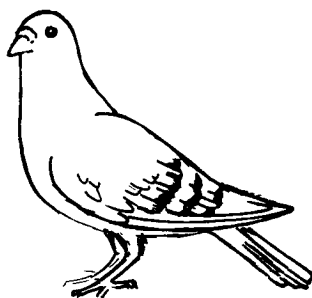


Pigeon Breeder's Lung

by Tim Burke



Editor's Note: Bird people who feel sick enough to visit the doctor should inform the doctor of their involvement with birds. There are several illnesses humans can contract from birds although the actual number of confirmed cases is statistically very small.

The following article deals with Pigeon Breeder's Lung. The article was written by Tim Burke while completing his graduate studies towards a Doctor of Pharmacy degree from the University of Nebraska. The article was first published in the journal of the American Pigeon Fanciers' Council.

PBL (Pigeon Breeder's Lung) could just as well stand for Parrot Breeder's Lung. The article is important to everyone who keeps birds of any sort.

In the past three years we have read much and heard even more about the disease "Pigeon Breeder's Lung." Some fanciers have given up their birds on the assumption they have the disease. Often this advice has come from medical practitioners who have made the diagnosis without following the criteria needed to make a precise diagnosis. It is possible that some of these medical practitioners were looking for the unique and overlooked some more common disease that could actually have been at fault. This article will attempt to define Pigeon Breeder's Lung (PBL) and offer some common sense approaches for the fancier to deal with this condition.

Approximately 40 articles have been written since 1965 on PBL, the most recent in the October 1982 issue of *Clinical Allergy*¹. The first article appeared in the *Journal of the American Medical Association* titled, "Pigeon Breeder Lung: A Newly Observed Intestinal Pulmonary Disease"^{2,19}.

PBL is also called bird fancier's lung and hen worker's lung. They represent a group of diseases classified as *hypersensitivity pneumonitis*^{10,14,16}. Other diseases in this group include Farmer's Lung (from moldy hay), Bagassosis (from sugar cane), Mushroom worker's lung, Cork worker's lung, Maple Bark disease,

Malt worker's lung, Sequoias (from sawdust), Cheese worker's lung, Air conditioner lung, Furriers lung (from animal dander), and Thatched roof worker's lung^{10,16}. The disease condition results from exposure to a dust which causes the hypersensitivity reaction (allergic condition). The dust is usually a mold, fungus, or a foreign (non-human) animal or vegetable dust¹⁶. Development of this hypersensitivity condition depends on the amount and duration of exposure as well as the patient's susceptibility. Hypersensitivity pneumonitis is very infrequent even among those with close and frequent exposure to the causative dusts^{5,16,17}. PBL can be caused not only by exposure in pigeons but by exposure to any avian species. Parakeets, finches, chickens, turkeys, and canaries have all been implicated in the disease^{1,8,10}.

The allergy seems to be caused not so much from the dried droppings which were originally implicated^{1,7-10} as it is from the "bloom" from the feathers⁴. This bloom is the white dust that is seen on the walls of the loft. Bloom is often a description of good health in birds as it seems the more bloom the bird has the healthier it is. This bloom is made up of fine dust coated with a highly allergenic substance¹. This bloom is inhaled and the lungs are the primary target for the symptoms of PBL^{1,7}. In true cases of PBL the fancier often will only exhibit symptoms in the presence of large numbers of birds (as at the pigeon show) and will have no symptoms when at home with only a few birds¹.

PBL has been classified into three separate disease states. The first is *Acute Progressive*. Acute Progressive is characterized by severe symptoms which often result in hospitalization. Partial modification of exposure to the dust (e.g. wearing a mask) is ineffective and the only cure for the disease is complete avoidance of the dust (e.g. abandonment of the hobby). The second and third types are more common and are called *Acute Intermittent Non-*

progressive and *Recurrent Nonacute* respectively. The more common of these two is Acute Intermittent Non-progressive. This disease state is characterized by the disease not progressing in severity over a period of years. These individuals only exhibit symptoms after over exposure (e.g. attending the pigeon show) and will be back to normal 24 to 48 hours later. These individuals will show no symptoms until the next severe exposure. Recurrent nonacute patients exhibit non-specific symptoms (cough, feeling of being tired, bronchitis, laryngitis) which improve after the exposure is removed¹.

PBL is an allergic response which, for some reason, affects non-smokers more than smokers^{1,2,8,10,13}. The same is true in other types of hypersensitivity pneumonitis³. As with all allergic diseases, the individual affected will have circulating antibodies to the material causing the allergy. These antibodies can be tested for and are often one of the criteria used for diagnosis of the allergy. It is interesting to note that 20 to 60% of the pigeon fanciers tested had a positive reaction (meaning presence of antibodies) but have never shown any symptoms^{4,8,11}. In fact, in one study an individual was tested who had never had contact with any avian species for a number of years showed a positive reaction⁹. It is evident that antibody testing is not a reliable tool for the diagnosis of PBL but serves only to indicate that the individual has had exposure to the birds^{4,14,16}. Individuals with a previous history of allergies are at no greater risk to develop PBL than those without allergies¹⁶.

The symptoms of true PBL will occur 4 to 14 hours after exposure^{1,5,16-18} and will subside in 24 to 48 hours if untreated^{1,8,16-18}. The main symptoms seen are chills, fever, cough, difficulty in breathing, anorexia, nausea, and vomiting^{1,5,8,10,16-18}. In the chronic form of the disease (recurrent nonacute), weight loss can reach 10 to 15 pounds in weeks^{10,18}. The symptoms of PBL mimic a number of more common diseases including bronchitis, asthma, seasonal allergies, colds, and the flu^{8,15-18}. In fact, people with the flu have been misdiagnosed as having PBL¹⁵.

Accurate diagnosis of PBL can only be done by practitioners experienced in allergic diseases.

The essentials of diagnosis include: 1. History of exposure to avian species; 2. Classical symptoms; 3. Antibody testing; and 4. Relief upon removal of the causative agent^{10,16}.

Number four is of utmost importance

in making the diagnosis of PBL for a few significant reasons: 1) All pigeon breeders will have a history of exposure to birds. 2) The classical symptoms can be exhibited by a number of common maladies as mentioned before and 3) a large percentage of the pigeon breeders will show a positive antibody testing without having the disease. Therefore a trial period of removal of the dust, waiting for the symptoms to abate and re-exposure is important.¹⁰

Individuals who have been properly diagnosed as having PBL can be treated with steroids^{1,16-18} and with drugs which decrease the allergic response.¹⁶ One of the important aspects in the treatment of PBL is modification of the exposure to the allergy causing dust (e.g. wearing a mask).⁹ Two individuals who were advised to give up pigeons refused but wore masks each time they came in contact with the birds or bird dust. Two years later these two individuals were symptom free.⁹

The actual incidence (number of times) that the disease occurs is very seldom.^{5,9,10,12,15-18} There were approximately 75,000 pigeon breeders in the U.S., 180,000 in England, and 250,000 in Belgium in 1968.¹⁰ The number of breeders today would be the same or larger, yet very few cases of PBL have ever been confirmed.

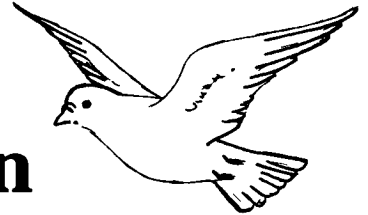
My impression of the disease is that the incidence has been overstated to the hobby and that many common diseases have been misdiagnosed as PBL. Fanciers giving up their birds in the belief that they had PBLM may well in fact have had the flu or been allergic to some other factor relating to the pigeons that they could have easily controlled (e.g. allergy to straw). Any fancier diagnosed as having PBL should have a trial period away from the birds and re-expose himself to see if the symptoms return. Seasonal allergies should be ruled out (e.g. allergy to the marigolds planted by the loft) and allergies related to the pigeons should also be ruled out (e.g. try a different loft litter). If true PBL does exist, the fancier should try wearing a mask whenever dealing with the birds as this seems almost as effective as disposing of the birds entirely. Fanciers who do not have PBL should protect themselves by wearing a good quality dust mask whenever cleaning the loft — this would cut down the chances of ever getting the disease. Allowing the birds frequent baths will decrease the amount of bloom released into the air and onto the fancier's clothing when handling the birds.

PBL is an uncommon disease which, in most instances, can be easily controlled. The only reason I can see for the panic which has gripped some is in the name. Maybe calling it "Cockatoo Keepers Cough" would be less distressing.

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Notes on Pigeon Breeder's Disease



Introduction

Pigeon breeder's disease is a lung disease which affects people who are regularly exposed to pigeon dust or droppings. The illness belongs to the regular category of lung diseases known as "hypersensitivity pneumonitis" which are caused by breathing materials such as bacteria, molds, plant or animal products and other foreign substances. Inhaling these substances into the lung causes an allergic response in certain sensitive individuals. This allergic response can take weeks, months or years to develop. After the allergic response has occurred, further exposure to the substance results in a reaction in the lungs which is like a pneumonia. Most of the time the reaction resolves by itself and does not damage the lungs. In some cases, however, permanent lung damage can occur.

Symptoms

There are three forms of the disease. The acute form occurs in attacks. These attacks happen immediately or within 12 hours after breathing the foreign substance. The illness is like having "a cold" or "the flu." Symptoms include cough, difficulty breathing, fever, chills, sweats and body aches. The symptoms usually resolve without treatment but recur after another exposure. The chronic form has a slow, gradual onset. There are no distinct attacks. Symptoms include cough, phlegm, unusual shortness of breath at rest or with mild exercise, fatigue, loss of appetite and

weight loss. The subacute form of the disease has features of both acute and chronic forms.

Detection

Persons who have become sensitized to pigeons and who are at risk for developing lung disease can be identified by a simple blood test. (Up to 70% of people exposed to pigeons are sensitized, but only a small number of these people develop the disease.) A chest x-ray and lung function tests can identify people who have lung disease.

Prevention and Treatment

The main treatment for most people with pigeon breeder's disease is avoiding exposure. For those people who cannot avoid exposure, protective measures, such as improved ventilation or masks, are sometimes effective. Medications are available for people who continue to have problems despite avoiding exposure.

The NIH Pulmonary Branch is actively studying the disease of hypersensitivity pneumonitis. We are looking for persons with known hypersensitivity pneumonitis as well as those who are exposed to and are suspected to have hypersensitivity to birds.

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