



From Birds to Breaths: Investigating a Chronic Cough in a Bird Owner – A Case Report

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Abstract

The interaction between humans and birds dates back to the dawn of humanity. This connection has led to the emergence of certain diseases, one of which is hypersensitivity pneumonitis, also known as Bird Fancier's Lung. First described in 1960⁽¹⁾, hypersensitivity pneumonitis is an immune-mediated reaction in the lungs, often triggered by long-term exposure to birds and blood tests often reveal positive antibody results specific to bird types, such as pigeons⁽²⁾. It can present in a variety of ways, ranging from no symptoms to severe pneumonia-like symptoms, including weight loss^(1,3). Diagnosing this condition can be challenging, as it may resemble lung cancer, as seen in our case, which involved a patient presenting with cough, weight loss, and shortness of breath. A thorough history, including questions about pets, can raise suspicion of Bird Fancier's Lung. Treatment may involve a course of oral steroids, avoidance of exposure, or wearing protective equipment⁽⁴⁾. In severe cases, oxygen therapy may be necessary⁽³⁾.

Our case describes the patient's journey from the initial presentation to the formal diagnosis and successful treatment, leading to the complete recovery of his symptoms. Despite the diagnosis, the patient chose to continue his bird-breeding hobby while maintaining a low-dose oral prednisolone regimen.

Keywords: *prolonged cough, hypersensitivity pneumonitis, birds, bird fancier's lung.*

Introduction

Respiratory diseases have significantly impacted human life since ancient times, with the Plague, a disease caused by respiratory infection, being a notable example. In modern medicine, while the Plague is treatable, new diseases continue to emerge, such as the COVID-19 pandemic, which

affected both lives and economies globally⁽⁵⁾. As we overcome such challenges with advancements like vaccines, other respiratory conditions, such as Bird Fancier's Lung, persist.

My personal passion for breeding pigeons since childhood reminds me of the deep bond between humans and birds, I always remember scenes from

movies where a bird perches on the shoulder of an actor, symbolizing a strong connection between humans and birds. a relationship that has existed since the beginning of humanity. This connection, while often positive, can also lead to disease processes like Pigeon Breeder's Disease (PBD), which can range from asymptomatic cases to severe forms requiring hospitalization, antibiotics, or steroids. Avoidance of exposure is beneficial, especially if there is no infection by *Chlamydia psittaci*. Symptoms may include fever, non-productive cough, weight loss, lethargy, and headache⁽³⁾

Some individuals have chosen to breed birds as a career, and we aim to support them in their endeavors.

Our case is unique in that it highlights the importance of social history in diagnosing Bird Fancier's Lung in a patient with a prolonged cough. The patient had a deep attachment to his birds, which complicated the discussion of treatment options, such as avoidance or steroid therapy. Fortunately, the symptoms were solely related to hypersensitivity pneumonitis.

Case Presentation

We present the case of a 45-year-old man who was telephone-triaged by a healthcare practitioner. He reported a four-week history of dry, ticklish cough, two weeks of weight loss (10 kg), and pruritus without skin rash. These findings were confirmed upon examination, where his chest was clear and there was no evidence of a skin rash. His past medical history included cholecystitis and pancreatitis secondary to gallstones. He was an ex-smoker, now vaping.

A chest X-ray was normal, and blood tests showed no significant abnormalities: HbA1c- 38, TSH- 1.24, B12 – 330, Folate <2, TC- 6.0, TGL- 2.5, HDL- 0.8, non-HDL- 5.1, TC/HDL- 6.8, LFTs normal, corrected serum calcium- 2.69, U&Es normal, FBC normal. A stool sample for FIT testing, performed due to concerns about the weight loss, was negative.

Thirteen days later, the patient returned with worsening shortness of breath on exertion. A CTPA was requested, but before it could be performed, he presented to the out-of-hours team with further worsening of breathlessness on exertion. His oxygen saturation was borderline at 95%, but he could speak in full sentences. Examination revealed no leg swelling, and heart and chest examinations were normal. Given the uncertainty, a decision was made to admit him to the ambulatory care unit, where a CTPA showed diffuse ground-glass opacity. He was discharged a few days later with a suspected diagnosis of hypersensitivity pneumonitis and was started on oral prednisolone. He was seen four weeks later in the respiratory clinic, where Bird Fancier's Lung was confirmed. Blood tests showed positive IgG against pigeons and budgerigars, but negative against *Aspergillus* and *Coxiella*. No tests were available for farm birds. Lung function tests revealed mild reductions in lung volumes (FEV1/FVC- 3.8/4.64 [95%/95% Predicted], Ratio- 82%, Static Lung Volumes- RV/TLC- 1.21/5.81 [60%/81%], Gas Transfer DLCO/KCO- 9.12/14.4 [87%/95%]).

Further blood tests showed Ku and Pm-scl75 antibodies were positive, suggesting an autoimmune response or myositis. After consultation with the rheumatology team, ANA was also found to be positive, but due to the clinical picture not fitting with myositis, the rheumatologist recommended monitoring the symptoms.

The patient was started on high-dose prednisolone, accompanied by a proton pump inhibitor to protect his stomach from ulcer due to high prednisolone dose and alendronic acid to protect his bones from long-term prednisolone use. He is currently being followed up in the respiratory clinic, undergoing regular pulmonary function tests, and has reduced prednisolone to 10 mg daily, with good recovery of his symptoms.

Discussion and Conclusion

This case presents the complex challenge of balancing patient expectations with medical realities. The patient, who has been breeding birds

since the age of three, is emotionally attached to them, considering them his children. The diagnosis of Bird Fancier's Lung was a significant issue for him, as it posed a dilemma: either stay on long-term steroids with associated side effects or give up his bird-breeding hobby.

The journey began with a cough, initially thought to be caused by an infection, which led to a 10 kg weight loss. Given his smoking history, there was a concern that it could be cancer-related, prompting a thorough investigation. Adding to the complexity was the challenge of accurately interpreting his chest X-ray (CXR)⁽⁶⁾. Despite the challenges, timely review and specialist input unveiled the diagnosis of Bird Fancier's Lung. The improvement in the patient's symptoms following appropriate treatment highlights the importance of considering a wide differential diagnosis, particularly in cases of prolonged cough. Keeping an open mind and considering the possibility of Bird Fancier's Lung in patients with a persistent cough—like seeing a bird perched on their shoulder, as in the movies—can be helpful in future consultations with anyone experiencing prolonged cough.

Open communication with the patient about the impact of the disease and treatment options is crucial. Understanding the patient's emotional attachment to his birds helped guide the decision-making process, allowing for a treatment plan that balanced medical needs with personal values.

References

1. Calvert JE, Baldwin CI, Allen A, Todd A, Bourke SJ. Pigeon fancier's lung: a complex disease? *Clin Exp Allergy*. 1999 Feb;29(2):166-75. doi: 10.1046/j.1365-2222.1999.00457.x. PMID: 10051719.
2. Shirai T, Tanino Y, Nikaido T, Takaku Y, Hashimoto S, Taguchi Y, Baba T, Ogura T, Kataoka K, Nakayama M, Yamada Y, Matsushima S, Nakayama S, Miyazaki Y. Screening and diagnosis of acute and chronic bird-related hypersensitivity

pneumonitis by serum IgG and IgA antibodies to bird antigens with ImmunoCAP®. *Allergol Int*. 2021 Apr;70(2):208-214. doi: 10.1016/j.alit.2020.09.003. Epub 2020 Oct 8. PMID: 33041192.

3. Gürsoy TR, Onay ZR, Eyüboğlu TŞ, Aslan AT, Boyunağa Ö. Pigeon breeder's disease as a cause of hypersensitivity pneumonia in children. *Turk J Pediatr*. 2020;62(4):623-633. doi: 10.24953/turkjped.2020.04.012. PMID: 32779415.
4. Hayes J, Barrett M. Bird fancier's lung in mushroom workers. *Ir Med J*. 2015 Apr;108(4):119-20. PMID: 26016305.
5. Morens DM, Folkers GK, Fauci AS. Emerging infections: a perpetual challenge. *Lancet Infect Dis*. 2008 Nov;8(11):710-9. doi: 10.1016/S1473-3099(08)70256-1. PMID: 18992407; PMCID: PMC2599922.
6. Bradley SH, Abraham S, Callister ME, Grice A, Hamilton WT, Lopez RR, Shinkins B, Neal RD. Sensitivity of chest X-ray for detecting lung cancer in people presenting with symptoms: a systematic review. *Br J Gen Pract*. 2019 Nov 28;69(689):e827-e835. doi: 10.3399/bjgp19X706853. PMID: 31636130; PMCID: PMC6805164.