LETTER TO THE EDITOR

Unveiling Bird Fancier's Lung in Karachi, Pakistan: A Call for Increased Awareness and Action

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Dear Editor,

Recent news report highlights an alarming surge in Bird Fancier's Lung (BFL) in Karachi, Pakistan [1]. An estimated 15-25 cases are now reported weekly, a stark increase from 1-2 cases per decade ago. This is likely due to an intersectional issue rooted in a unique blend of cultural practices and a dense urban environment. The centuries-old tradition of *Kabootar Bazi* (pigeon fancying) on city rooftops creates a high concentration of aerosolized antigens, which are readily dispersed throughout the densely populated urban fabric [2]. This explains why the disease disproportionately affects individuals, particularly women and the elderly [1], who spend prolonged periods indoors with exposure through open windows or uncleaned air conditioning units, even without being active pigeon keepers. The burden is much higher, driven by underdiagnosis, rising AC use, and recent heatwaves across Pakistan.

BFL, a rare lung disease caused by bird droppings, is an immune-mediated hypersensitivity pneumonitis triggered by inhaled avian antigens. It is a dynamic, heterogeneous syndrome involving both immune-complex (type III) initially and T-cell (type IV) mechanisms, ultimately leading to lung granulomas despite negative antibody tests [3]. The clinical presentation can range from acute, with flu-like symptoms hours after intense exposure, to chronic, characterized by an insidious onset of progressive breathlessness and lung fibrosis.

- **Acute *vs.* Chronic Presentation:** Chronic inhalation of pigeon droppings and feathers leads to progressive dyspnea and cough, often resulting in severe fibrosis. Diagnostic delay is a significant concern, as evidenced by cases in which delayed diagnosis (average 4 years) worsened outcomes. Symptoms are often misdiagnosed as asthma or tuberculosis, which can lead to irreversible lung damage [4].
- **Diagnosis and Management:** Diagnosis hinges on a detailed clinical assessment and a history of significant avian exposure. Findings on high-resolution computed tomography (HRCT) may include ground-glass opacities, centrilobular nodules, and fibrosis, along with bronchoalveolar lavage lymphocytosis (>30%) [5]. Complete antigen avoidance is the cornerstone of management, which can resolve acute disease and stabilize chronic conditions, but is challenging due to cultural and economic factors. Corticosteroids may also be helpful for symptomatic relief [6, 7].

To address this emerging health concern, clinicians in Pakistan should routinely inquire about exposure to birds among patients with chronic respiratory symptoms. Preventive measures, such as regulating urban pigeon exposure, following examples from countries like Switzerland, Australia, and Saudi Arabia, which have banned public pigeon feeding, can help reduce risk [1]. Additionally, public health initiatives must advocate for awareness programs as a primary preventive measure; the Sindh Department of Health, in partnership with NGOs like SINA and the Pakistan Anti TB Association (PATA), should lead a multi-stakeholder effort to educate the public on simple preventive measures such as the use of masks, wet cleaning of high-risk areas, and regularly cleaning air conditioning units and ventilation systems.

In conclusion, BFL should be recognized as a growing occupational and environmental health issue. Strengthening clinical awareness, enforcing preventive measures, and initiating nationwide epidemiological studies to understand better the prevalence and risk factors are critical to limiting disease progression. The lack of robust epidemiological data on BFL in Pakistan and the absence of a formal diagnostic code in health registries are critical systemic gaps that impede effective public health action. Karachi's rising trend offers an urgent reminder of the need for proactive action before the burden escalates further.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORS' CONTRIBUTION

Mubashir Raza conceptualized the study and wrote the original draft, while Sameer Ali contributed to the writing and final review of the manuscript. The final version of this manuscript has been read and approved by the authors.

GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work the authors limitedly used ChatGPT (GPT-4, OpenAI) to get language suggestions and do minor proofreading in some parts of the manuscript. After using this tool/service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the published article.

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