

Case reports

Common presentation of rare disease

Bird fancier's lung

D Madegedara¹, D Nandadeva², H S Samankantha³, M H Wattegama⁴

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Introduction

Bird fancier's lung, a form of hypersensitivity pneumonitis is an uncommon but important occupational and recreational cause of severe and debilitating breathlessness. It is often unrecognized and is frequently misdiagnosed as a respiratory tract infection or interstitial lung disease, as it is not known to be of high incidence in the Sri Lanka. The diagnosis is often missed if an occupational or recreational aetiology is not looked for in patients presenting with respiratory symptoms.

We report a case of bird fancier's lung, presenting in the sub acute form.

Case report

A 56-year-old female who had returned from Bahrain one month back, presented with a productive cough of one year duration. Her cough had a diurnal variation and was mainly nocturnal. Along with it she had exertional dyspnoea which was progressively worsening. At the time of presentation she had a dyspnoea scale of MRC grade 3. In addition she had loss of appetite and a significant weight loss of 14 kg over the last 6 months. Further questioning revealed that during the last year she had been exposed to pigeon and parrot excreta and feathers while cleaning a bird cage thrice a week as a part of her job as a housemaid.

On clinical examination, she was thin built, had no clubbing or lymphadenopathy. Auscultation of the chest revealed bibasal fine crepitations and no ronchi. Other systems were unremarkable. Her oxygen saturation on air was 99%.

Her full blood count, serum electrolytes, renal, hepatic and thyroid function were normal. ESR was 40mm 1st hour. C reactive protein, sputum smears and

HIV test were negative. The ECG was normal. Her serum IgG level was 2254 IU/L. Auto immune screening was negative.

The lung function tests demonstrated a restrictive pattern with a FVC of 1.37 (66.1% of predicted) FEV¹ of 1.22 (70.6% of predicted) and low diffusion capacity (DLCO) of 37.3% of predicted.

The chest radiograph revealed bilateral interstitial reticular shadowing. A high-resolution computed tomography scan of chest showed diffuse ground glass opacification of both lung fields. Mosaic attenuation with evidence of air trapping on expiration was noted in superior and posterior basal segments of both lower lobes in a patchy manner: Appearances were suggestive of sub acute hypersensitivity pneumonitis.

A diagnosis of bird fancier's lung, in sub acute form, was made according to the diagnostic criteria⁸, considering the clinical and radiological evidence, and the temporal relationship in exposure to avian antigens with the disease onset.

Treatment consisted of a prolonged course of oral corticosteroids over three months which was gradually tapered off. Patient made a full recovery, both clinically and radiologically.

Discussion

Interstitial lung diseases are a heterogeneous group of lung disease, which have different aetiopathologies but share same clinical and radiological features. These diseases can also mimic many other disorders, both pulmonary and non pulmonary, acute as well as chronic. While some of these diseases can only be symptomatically and palliatively treated there are some which can be treated with an aim to cure. Thus making the right diagnosis early is of great importance.

Hypersensitivity pneumonitis (HP) is a collection of allergic lung diseases caused by the inhalation of antigenic organic particles or fumes^{1,2}. HP is histologically characterized by the triad of non-necrotizing granulomas, chronic inflammatory change in small airways and diffuse interstitial infiltrates of chronic

¹ *Consultant Respiratory Physician,*

^{2,3} *Senior Registrar,*

⁴ *Medical Officer, Respiratory Medicine Unit II, Teaching Hospital, Kandy, Sri Lanka*

inflammatory cells^{3,4}. Bird fancier's lung is a type of HP caused by airborne exposure to avian antigens present in bird excreta and feathers^{6,7}. The disease may present acutely or sub-acutely and such episodes usually resolve with cessation of the antigen exposure. Chronic disease may progress to irreversible disease⁶.

Our case is of sub acute course which is typified by insidious onset with significant loss of weight and anorexia mimicking other pulmonary diseases like tuberculosis which is a common infection in our society.⁶

There is no specific radiological, immunological or physiological diagnostic test for HP. The Diagnosis is considered based on (1) symptoms compatible with HP, (2) evidence of exposure to antigen by history or detection of antibody in serum and/or broncho alveolar lavage (BAL) (3) findings compatible with HP on chest xray or high resolution CT (4) BAL fluid lymphocytosis (if BAL performed) (5) pulmonary histological changes compatible with HP (if lung biopsy performed) (6) positive "natural challenge" (reproduction of symptoms and laboratory findings after exposure to the suspected environment)⁸.

Recognition and diagnosis of hypersensitivity pneumonitis is often challenging because of the difficulty in identifying a temporal relationship with the offending antigen and it mimics several other respiratory disorders according to time frame of the HP. However in some cases such as ours a clear history of exposure to bird feathers and faeces are easily demonstrable. In other instances, even though the patient does not give a history suggestive of the acute attacks, which is often seen in chronic HP, the onset is clearly related to the exposure.

In the treatment corticosteroids are indicated for severe acute and sub-acute HP and for chronic HP that is severe or progressive. Long-term corticosteroid therapy for the treatment of chronic HP should be

considered only if objective improvements in clinical signs, pulmonary function, or radiographic abnormalities are documented⁵.

Conclusion

Bird fancier's lung and other forms of HP can be associated with severe debilitating dyspnoea and patients may present many years after exposure to the antigens. Prevention and early diagnosis of those at risk of developing chronic lung disease requires adequate knowledge, awareness and understanding of the disease by the medical professional. Physicians should be encouraged to take a detailed occupational and recreational history in any patient presenting with respiratory symptoms, particularly in those with unexplained breathlessness.

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