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Bird fancier's lung – comment on: Kumar R., Singh M. "Bird fancier's lung: clinical-radiological presentation in 15 cases"

Płuco hodowców ptaków — komentarz do artykułu Kumar R., Singh M. "Bird fancier's lung: clinical-radiological presentation in 15 cases"

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Recently, in Polish Pneumology and Allergology an interesting paper from India presenting 15 cases of pigeon fancier's lung was published [1]. Patients with suspected bird fancier's lung require comprehensive evaluation, hence the paper gives rise to the following remarks.

Clinical symptoms

Extrinsic allergic alveolitis (EAA) is not a uniform disease entity, but rather a complex dynamic clinical syndrome that varies in its initial presentation and clinical course [2]. Fink et al. have described EAA as occurring in acute, subacute and chronic forms [3]. The authors do not however specify how many of the patients presented with the acute, subacute or chronic course of the disease. An alternative classification system that emphasises the dynamic nature of the disease with acute progressive, acute intermittent non-progressive and recurrent non-acute disease has been proposed [4]. However, the authors did not identify the course of disease in their patients. The study noted that in all of the patients crackles were audible upon respiration. Was there no wheezing heard in the patient with airway obstruction?

Characteristics of the exposure to bird specific antigens, such as time or duration are not well documented in the study. For the majority of patients with pigeon breeder's lung in Poland contact with birds is a hobby and after diagnosis of disease avoidance of the causative antigen is usually easily achievable. It is more difficult however for patients with farmer's lung, since farmers work in harmful conditions because this work is the source of their livelihood [5]. It was not clearly stated but it would be beneficial to know; how many patients completely restricted contact with the causative antigen? It is not clear what treatment was administrated following diagnosis of EAA in this group of 15 patients. Were there patients in this group treated with corticosteroids? It is important to know if patients with clinical symptoms and functional or radiological abnormalities were exposed to antigens.

Pulmonary function tests

Functional evaluation is an important part of the article, hence the title of the presented paper could be: Bird fancier's lung — clinical, radiological and functional presentation of 15 cases. It is difficult to accept the presentation and interpretation of pulmonary function tests in this study. The authors diagnosed restriction in 80% of patients on the basis of spirometry. It is not possible to diagnose this pattern of ventilatory disturbances

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using spirometry alone, because although it can measure VC, it cannot measure TLC. A decrease in VC does not prove a restrictive pulmonary defect. It may be suggestive of lung restriction when FEV_1/VC is normal or increased [6]. A restrictive ventilatory defect is characterised by a reduction in TLC below the 5th percentile of the predicted value, and a normal FEV_1/VC [6]. In the quoted by authors study of Morell et al. [7] restrictive defects were confirmed by body plethysmography.

Evaluation of spirometric severity of airways limitation using FEV_1 in the group of patients with restrictive ventilator defect is very disputable. FEV_1 is a recognized criterion of obstructive severity with decrease in FEV_1/VC below the limit. It would be more logical to use the old classification of restriction severity which, according to ATS, is based on a decrease in (F)VC with normal FEV_1/VC (mild-lower limit of the norm to 70%, moderate — 60–69%, severe-moderate — 50–59%, severe — 34–49%, very severe < 34%) or even better based on TLC (mild-lower limit of the norm — 70%, moderate — 60–69%, severe less than 60%) [8]. It would have been better to limit the presentation of spirometric data to information on how many patients had a decrease in VC and a mean value with standard deviation. Plethysmography is helpful for evaluation of RV. Air trapping, which is typical for obstructive lung diseases, was observed in 33% of patients in HRCT. It would be interesting to know the values of airway resistance and RV/TLC. The authors dedicated too little space to the evaluation of oxygen diffusion. In Table 2, only 1 patient was marked with an isolated decrease in DLco, although 13 patients had a moderate decrease in diffusion capacity [1]. The accurate elaboration of DLco was more important than presentation of FEV_1 with details. Evaluation of respiratory sufficiency in these patients would have been very helpful. Arterial hypoxemia is a minor diagnostics criterion of EAA [9]. The authors indicated in Table 2 that a desaturation in the 6-min. walk test was observed in 73% of patients [1]. However, the values of SaO_2 at rest and after effort were not shown in the paper. The value of PaO_2 is also important in the early phase of diagnostics because it is one of the minor criteria in the diagnosis of EAA [9].

Radiological image

The authors did not define what radiological abnormalities on the conventional chest X-ray were observed. Although HRCT is better for precise localisation, nature and assessment of the spread of pulmonary changes, conventional chest X-ray permits detection of patients with interstitial lung diseases. It would be interesting to know how many patients had radiological changes in their chest X-ray, as well as the localisation and nature of the abnormalities. In two of the described cases mediastinal lymphadenopathy was observed. How big were these nodules? This is not a typical radiological finding for patients with EAA. In the big groups of patients with EAA shown in the paper in Table 3 lymphadenopathy was not demonstrated. It could be inferred that this lymphadenopathy was not provoked by EAA. The most important potential cause of lymphadenopathy is tuberculosis, especially since it is linked with the epidemiological situation in India [10]. One patient had multiple post-tuberculosis cavities in his lung. Was enlargement of mediastinal lymph nodules observed in this patient after antituberculous treatment? Another problem is the discrepancy between frequency of occurrences of irregular lines in HRCT — in Table 2 they were visible in as many as 80% of patients and in Table 3 in only 60% [1]. In described group of patients it was the most frequent finding on computed tomography. However, in papers quoted by the authors it was not observed [11, 12] or seen only in 29% of patients [7]. The authors did not try to explain what might be the cause of such a big difference was. It is difficult to presume that the patients with EAA in India have different radiological abnormalities. More probable is a problem with interpretation of computed tomographic findings. Unfortunately, neither of the authors of the paper is a radiologist. It would be useful to ask two independent radiologists, with experience in interstitial lung diseases, what kind of radiological changes they observed. Perhaps these irregular lines were typical for EAA inter/intra-septal thickening or a kind of discrete fibrosis.

Immunological evaluation

Unfortunately, the authors did not evaluate the immunological aspects of the disease. Bronchoalveolar lavage (BAL) could have been carried out during bronchofiberoscopy because a percentage of lymphocytes in the BAL fluid above 40% is one of the major criteria used to diagnose EAA [9]. Serological tests were not performed, which in spite of good sensitivity were not specific for EAA. Morelli et al. [7] discovered precipitins against bird antigens in the serum of 92% of patients with

EAA but also in 87% of pigeon fanciers without the disease. Nevertheless, in the original table of diagnostic criteria of EAA by Schuyler & Cormier there is mentioned not only evidence of antigen exposure, but also specific precipitins in sera or BAL fluid [9].

Conflict of interest

The author declares no conflict of interest.

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