J Bras Pneumol. 2020;46(3):e20190365
https://dx.doi.org/10.36416/1806-3756/e20190365

Angiolymphoid hyperplasia with eosinophilia in the lungs: a complex name for an innocuous disease?

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TO THE EDITOR:

Angiolymphoid hyperplasia with eosinophilia (ALHE), also known as epithelioid hemangioma, is a rare entity that was first described by Wells & Whimster in 1969.[1] It is a rare benign vascular tumor characterized by vascular proliferation, lymphoid hyperplasia, and eosinophilia.[2] The lesions are located mainly in the subcutaneous tissue of the head and neck.[1] Reported cases of pulmonary involvement are extremely rare.[3-5]

Here, we report a case of ALHE of the lung. The patient was a 59-year-old White male who was a current smoker with a smoking history of 48 pack-years and a history of illicit drug use (inhaled heroin) more than 10 years prior. He presented with a two-month history of asthenia and tiring easily. The results of the physical examination were normal. A CT scan of the chest showed a 4-cm peripheral pulmonary mass in the left lower lobe and bilateral diffuse emphysema (Figure 1A). Laboratory tests showed no anemia (hemoglobin, 14.7 g/dL), other findings of note including eosinophilia (540 × 10^9 eosinophils/L), normal total IgE (22.9 U/mL), negative serology for viral infection, normal serum protein electrophoresis results, and normal immunoglobulin levels. Positron emission tomography (PET) revealed mild uptake (maximum standardized uptake value, 1.0-1.8) in four micronodules in the left upper lobe and in three micronodules in the left lower lobe, all of which were located in the juxta-diaphragmatic region, had an undetermined nature, were solid, and measured between 3 and 6 mm. The 4-cm pulmonary mass showed no uptake. CT-guided percutaneous lung biopsy (Figure 1B) yielded histological results suggestive of ALHE, although it was not possible to completely exclude parasitic infection (Figures 1C and 1D). Concomitantly, fiberoptic bronchoscopy, with BAL, showed no endobronchial lesions. The BAL fluid tested negative for neoplastic cells, bacteria, fungus, viruses, and parasites. Although surgical resection was considered, it was contraindicated because of the severity of the obstructive disease, with low DLCO. At this writing, the patient is undergoing pulmonary rehabilitation.

ALHE is an uncommon condition of unknown etiology. It typically develops between the third and fifth decades of life and appears to occur primarily in women.[1] Lesions predominantly affect the subcutaneous cellular tissue of the neck.[1] Pulmonary involvement is rare, and, in such cases, the most commonly reported symptoms are cough and dyspnea.[2,3]

The differential diagnosis is broad and comprises malignant diseases, including low-grade lymphomas, such as mucosa-associated lymphoid tissue lymphoma; more aggressive lymphomas, such as Hodgkin lymphoma; and malignant vascular tumors, namely, primary or metastatic pulmonary angiosarcoma.[3] Benign conditions, such as nodular lymphoid hyperplasia of the lung and lymphocytic interstitial pneumonia, can also be considered; however, in these two conditions, the infiltrate is predominantly lymphoid rather than eosinophilic.[3] In addition, other benign conditions, such as parasitic infection, Langerhans cell histiocytosis, and Churg-Strauss syndrome, should be considered; in the case reported here, however, the differential diagnosis did not include Langerhans cell histiocytosis, given the absence of immunohistochemical staining for CD1a, and did not include Churg-Strauss syndrome, given the absence of other clinical criteria consistent with this disease.[3] The differential diagnosis also includes IgG4-related disease.[6,7] However, the absence of obliterating arteritis, the insignificant fibrosis, and the small number of plasma cells in the biopsy specimen allowed us to exclude that diagnosis.[8] Finally, we excluded the possibility of extramedullary erythropoiesis because there was no anemia or splenomegaly and there were no immature cells in the histological sections.[3] Therefore, biopsy is essential to establish the diagnosis; the presence of immature vessels and proliferation of epithelioid endothelial cells accompanied by marked infiltration of eosinophils and lymphocytes should suggest the diagnosis of ALHE.[1,2] With regard to the behavior of ALHE on PET, there have been scattered cases in which PET has revealed marked uptake, unlike in the case reported here; however, to date, there have been no studies describing the characteristics and usefulness of PET in patients with ALHE.[9]

Although only a few cases of ALHE of the lung have been reported, the prognosis is described as being favorable.[2] The scarcity of such cases is also the cause of the uncertainty about the appropriate therapeutic approach. Surgical resection appears to be the most option of choice,[2,3,5] although there have been reports of cases treated with nonsurgical options, including one treated with prednisolone and IFN-α2b,[4] as well as one managed by clinical and imaging monitoring.[3]

Albeit rare, ALHE of the lung should be considered in the differential diagnosis of pulmonary nodules.[5] Decisions regarding treatment should involve a multidisciplinary

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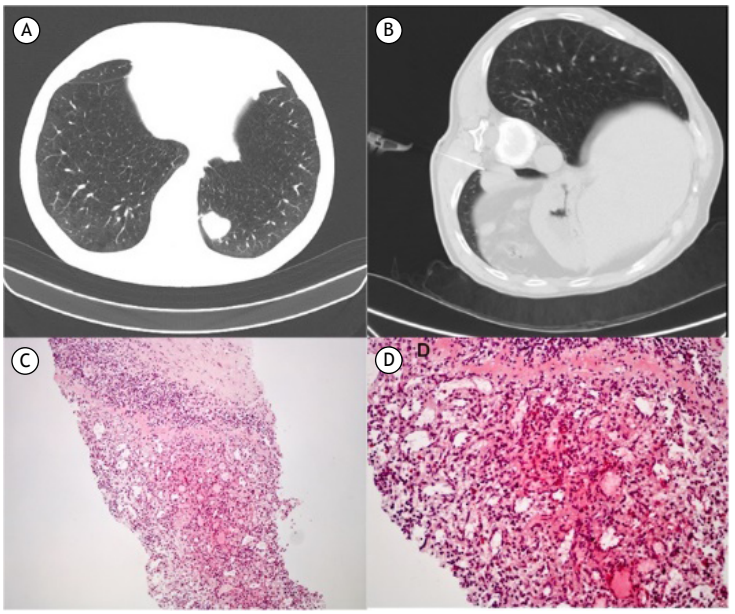

Figure 1. In A, CT scan of the chest showing a 4-cm peripheral pulmonary mass in the left lower lobe and bilateral diffuse emphysema. In B, CT-guided transthoracic biopsy. In C and D, photomicrographs of the lung parenchyma (H&E; magnification, ×100 in C and ×200 in D), showing edema, diffuse capillary proliferation, areas of fibrosis, and intense mixed inflammatory infiltrate, in which there are numerous B or T lymphocytes, together with eosinophilic granulocytes.

team and should be made in conjunction with the patient, given the many uncertainties surrounding this disease.

To our knowledge, there have been only four reported cases of ALHE of the lung. However, we believe that even a small number of ALHE cases or individual experiences with it could improve our knowledge and management of this disease.

REFERENCES

1. Wells GC, Whimster IW. Subcutaneous angiolymphoid hyperplasia with eosinophilia. Br J Dermatol. 1969;81(1):1-14. https://doi.org/10.1111/j.1365-2133.1969.tb15914.x
2. Suster S, Moran CA. Angiolymphoid hyperplasia with eosinophilia. In: Suster S, Moran CA. Diagnostic Pathology: Thoracic. 2nd ed. Philadelphia: Elsevier; 2017. p.336-339.
3. Moran CA, Suster S. Angiolymphoid hyperplasia with eosinophilia (epithelioid hemangioma) of the lung: a clinicopathologic and immunohistochemical study of two cases. Am J Clin Pathol. 2005;123(5):762-765. https://doi.org/10.1309/UN1AQ2WJU9HDD72F
4. Dulohery MM, Patel RR, Schneider F, Ryu JH. Lung involvement in hypereosinophilic syndromes. Respir Med. 2011;105(1):114-121. https://doi.org/10.1016/j.rmed.2010.09.011
5. Ribeiro L, Souto M, Loureiro A. Angiolymphoid Hyperplasia With Eosinophilia of the Lung. Arch Bronconeumol. 2018;54(6):340-342. https://doi.org/10.1016/j.arbres.2017.12.013
6. Hamaguchi Y, Fujimoto M, Matsushita Y, Kitamura-Sawada S, Kawano M, Takehara K. IgG4-related skin disease, a mimic of angiolymphoid hyperplasia with eosinophilia. Dermatology. 2011;223(4):301-305. https://doi.org/10.1159/000335372
7. Deshpande V, Zen Y, Chan JK, Yi EE, Sato Y, Yoshino T, et al. Consensus statement on the pathology of IgG4-related disease. Mod Pathol. 2012;25(9):1181-1192. https://doi.org/10.1038/modpathol.2012.72
8. Moreira LB, Melo AS, Marchiori E. Intrathoracic extramedullary hematopoiesis: a case report [Article in Portuguese]. Radiol Bras 2001;34(3):177-180. https://doi.org/10.1590/S0100-39842001000300013
9. Cellina M, Martinenghi CMA, Panzeri M, Oliva G. Epithelioid hemangioma of the arm: a rare benign vascular lesion. Rheumatol Orthop Med. 2018;3(2):1-3. https://doi.org/10.15761/ROM.1000147