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PULMONARY SARCOIDOSIS: CLINICAL-RADIOLOGICAL FINDINGS OF AN ORIGINAL CASE

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ABSTRACT Sarcoidosis is a systemic pathology that causes non-caseifying granulomas in one or more organs and tissues; of unknown cause. It most often affects the lungs and lymphatic system, however it can develop in any organ. Between 15-40% present with respiratory symptoms, the most frequent being cough and dyspnea.[1]

To reach the diagnosis, lung involvement (biopsy) must be suspected and this associated with imaging tests, and other causes of granulomatous inflammation must be excluded. The treatment is based on corticosteroids. Its prognosis is good when the disease is limited, but negative for more advanced cases.[2]

We present the case of a patient who attended the Quito-Ecuador Military Hospital with a clinical picture characterized by a cough with whitish expectoration, weight loss, a 6-month history of thermal increase that did not subside, despite analgesic medication prescribed by a private physician. She was admitted to extension studies where, after several diagnostic exclusions, pulmonary sarcoidosis was concluded, however, the patient presented clinical deterioration and died.

As this is a disease that is difficult to explain and in addition to being rarely diagnosed in our setting, we decided to present this clinical case.

Objective: Learn about pulmonary sarcoidosis through the presentation of a case, so that readers are trained to identify the key points of the pathology (main epidemiological, clinical, pathological characteristics and the different ways of reaching the diagnosis).

Method: This is a retrospective study of pulmonary sarcoidosis sarcoma, emphasizing its clinical, radiological and histological characteristics.

Conclusion: Sarcoidosis is a multisystemic, granulomatous disease of unknown etiology, with variable clinical presentation. The lung is the most affected organ (90% cases). The diagnosis is anatomical-pathological, in most cases, in particular situations it can be considered based on clinical-radiological findings. The first step in treatment is oral glucocorticoids.

KEYWORDS : Sarcoidosis, Lung

INTRODUCTION

Sarcoidosis is a granulomatous multisystemic entity, its etiology is unknown. It preferably affects young adults. It has a pulmonary and lymphatic compromise, associating extrapulmonary compromise with variable frequency.

The disease shows an inclination for people younger than 40 years, with a peak between 20-29 years. There is significant heterogeneity in the prevalence, presentation and severity of the disease among the different racial and ethnic groups.The overall mortality of sarcoidosis is 1- 5%. The etiology of sarcoidosis remains unknown. Three lines support that this disease manifests itself in genetically susceptible individuals as a result of exposure to specific environmental agents: 1) epidemiological studies; 2) the inflammatory response in sarcoidosis.[3]

Approximately 50% of patients develop symptoms, the rest being identified on screening chest radiographs of asymptomatic individuals. Symptoms of pulmonary or endobronchial involvement are nonspecific and include cough and dyspnea. Constitutional symptoms such as weight loss, asthenia, adynamia, general malaise are usually associated with multi-system involvement.[4-5]

Regarding the manifestations of multisystem compromise, practically any organ can be affected by this disease. The most frequent and relevant compromises are the following: between 10-35% present skin lesions (erythema nodosum, more frequent in women), 10-25% ocular compromise (uveitis), 5-17% joint compromise (Lofgren syndrome) , approximately 5% present cardiac involvement and another 5% neurological compromise.[1-6]

Most cases will require a pathology study to confirm the diagnosis. In particular situations, diagnosis can be made based on clinical radiographic findings. This includes the following presentations:[7]

1. Bilateral and symmetric hilar lymphadenopathies on the radiograph of an asymptomatic patient
2. Lofgren's syndrome: erythema nodosum, hilar lymphadenopathy, fever and arthritis[8]
3. Heerfordt´s syndrome: uveitis, mumps and fever.

The rest of the presentations of this disease, which constitutes the vast majority of cases, will require a confirmatory biopsy that demonstrates the presence of noncaseating epithelioid granulomas.

The indications for treatment are highly controversial, however corticosteroids remain the main therapy for progressive pulmonary sarcoidosis. Oral corticosteroids relieve respiratory symptoms, improve radiological findings, and lung function tests [9]

If under corticosteroid treatment the patient has disease progression or adverse effects, the use of other drugs such as methotrexate, azathioprine, leflunomide or mycophenolate mofetil should be considered.[10]

METHODOLOGY:

This is a retrospective study of pulmonary sarcoidosis sarcoma, emphasizing its clinical, radiological and histological characteristics.

The information and images obtained belong to the medical personnel in charge of the case whose reinforcements rest in the statistical package Excel, Word and JPG.

CASE PRESENTATION

This is a 66-year-old female patient, residing in Esmeradas, Ecuador, from household chores, with a personal history of Type 2 Diabetes Mellitus being treated with Insulin Lantus 24 IU per day and Metformin 850mg and Deep Vein Thrombosis in the lower limb. Right in October 2019 on treatment with Apixaban 5mg twice a day. Patient comes to the outpatient clinic for Pneumology due to persistent cough, the same one that started 6 months after exposure to cold, with scant whitish expectoration, accompanied by weight loss of approximately 9 kg (in six months), non-quantified thermal rise for which paracetamol, night sweats, general discomfort and anorexia are self-medicated, so it is decided to admit them for the extension of examinations and to investigate pathology.

Upon arrival at the Pulmonology service, a chest tomography is performed (photo1)

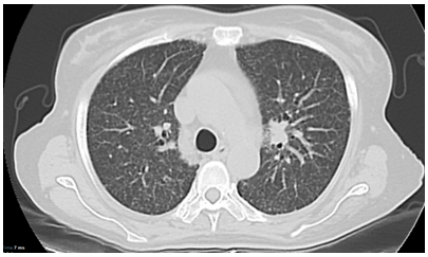

Photo 1. Chest tomography, diffuse micronodular lesions in interstitial and centrilobular spaces richly distributed in both lung fields

On physical examination, the patient was conscious and oriented; he had a pale skin and normal mucous coloration. At the chest level, he had a palpable nodule (adenopathy) in the right axillary area of approximately 1 cm in diameter, not painful. On auscultation, the heart rate was 110 beats / min. Lung auscultation vesicular murmur decreased. The soft and depressible abdomen; he had no masses or hepatomegaly, feeling a non-painful spleen pole.

Examination of the extremities, painful dark lesion on extensor surfaces (erythema nodosum). Given the suspicion of a systemic disease that was causing the symptoms, extension tests were considered to rule out infectious, immunological, tumorous and idiopathic diseases or other causes.

Extension tests are carried out before the possibility of immunological disease. Ionic calcium 7,857, total calcium 12.33 mg, ANA: 150 IU / ML, ANTI-DNA (ss-ds): 200 IU / ML, JO1AC IGG: 50 U / ML is objective high. Serologies: Toxoplasma, HIV and negative CMV. EBV serology negative IgM, positive IgG. Since his patient admission, he presented a decline in his general condition, with progressive asthenia, non-productive cough, predominantly evening fever and night sweats, so it was decided to perform a new chest tomography (photo 2)

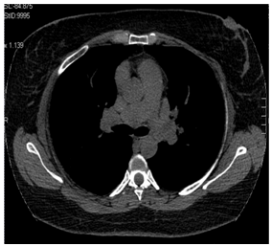

Photo 2. Chest tomography, bilateral hilar lymphadenopathy.

During hospitalization, bronchoscopy was performed, observing mild diffuse bronchitis, deformity of the left lower lobe bronchus, and samples were sent for biopsy, which reported a lung parenchyma with a dilated bronchus surrounded by lymphocytes, of non-necrotizing granuloma. (Photo 3)

By Clinic, radiology and histopathology Sarcoidosis is diagnosed, establishing prednisone treatment at a dose of 40 mg every day for two days. Due to the fact that the patient experienced high blood pressure 190/90, the dose of intravenous anti-hypertensive

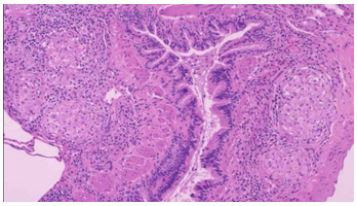

Photo 3. Immunohistochemistry, non-necrotizing epithelioid granulomas around a bronchiole

medication Enaprilat 1ml was readjusted, in this patient period with an unfavorable evolution with altered level of consciousness, an MRI was performed, objectifying left paraventricular intraparenchymal hemorrhage so it was transferred to the intensive care unit, with blood pressure <40/20, agonizing electrical activity, assisted with mechanical ventilation exclusively to offer comfort. Patient in the process of death, performs cardiac arrest due to asystole, later his death is determined.

DISCUSSION

Sarcoidosis is a multisystemic disease of unknown etiology, characterized by the formation of non-necrotizing granulomas.

The clinical picture is protean, with predominantly respiratory manifestations. Pulmonary manifestations affect 90% of patients with sarcoidosis. Between 12 and 50% of patients with sarcoidosis are asymptomatic at diagnosis.

Its distribution is worldwide, with preferential affectation of young adults, especially in the third decade of life. The incidence is 10 times higher in the black race, especially in women, in whom there is a worse prognosis and a greater tendency to chronicity.[11-12]

Extrapulmonary manifestations occur in practically any organ, such as skin lesions, ocular involvement, joint, cardiac and neurological involvement. Neurosarcoidosis and cardiac sarcoidosis are considered severe and have a poor prognosis.[13]

The first-line treatment is based on corticosteroids, however in many cases they remit spontaneously. Respiratory disorders are the main cause of morbidity and mortality. First-line treatment is based on corticosteroids, however, in many cases they remit spontaneously. Respiratory disorders are the main cause of morbidity and mortality.

The case presented in this article is exceptional because his clinic began with respiratory and constitutional compromise, in addition to extra-pulmonary compromise, with skin lesions, this being one of the most frequent to find. In addition to the tomographic findings of the chest, the presence of mediastinal lymphadenopathy was found, the most characteristic finding present in up to 85% of cases [14], Despite reaching the diagnosis of pulmonary sarcoidosis, he presented a poor response to steroid treatment due to the short time established by his evident neurological deterioration due to intraparenchymal hemorrhage that led to his death. The literature does not tell us about this complication, but it does clarify that neurological compromise manifests itself in this pathology.

CONCLUSION

Pulmonary Sarcoidosis is a multisystemic disease, the diagnosis of which can only be made with a careful study, for which the variations regarding the diagnosis of the pathology have been described. It has been reviewed in different bibliographies, most of the cases will require an anatomopathological study to confirm the diagnosis. In special situations the diagnosis can be considered based on the clinical radiographic findings or by exclusion, it is not necessary to comply with peculiarities such as clinical, radiology and histopathology to confirm the diagnosis, as in our case, its exceptional nature due to It fulfills three fundamental aspects described, but it is not a sine qua non condition for reaching the pathology determination.

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