

Arthritis and diagnosis of leprosy: a case report and review of the literature*

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Abstract: Leprosy is clinically characterized by involvement of peripheral nerves and skin. The immunological profile of the individual defines the diversity of clinical manifestations, from skin disorders to systemic manifestations, especially the articulation ones, common in multibacillary forms, which may mimic collagen diseases and often posing diagnostic difficulties in endemic areas. This is a case report of asymmetric polyarthritis of small and large articulations associated with skin lesions which had been treated by a rheumatologist for 2 years with initial clinical diagnosis of rheumatoid arthritis, and later, with the appearance of skin lesions, of systemic lupus erythematosus.

Keywords: Arthritis; Erythema nodosum; Leprosy

INTRODUCTION

Hansen's disease (HD) is one of the main public health problems in Brazil (a country that has the largest number of cases in Latin America and the second worldwide), according to the World Health Organization (WHO).¹ Its etiological agent is *Mycobacterium leprae* and its infection source is the individual without treatment. A systemic disease, the bacillus enters the body through the upper airways, migrates through the hemolymphatic system to the reticuloendothelial system organs and lodges itself in the cutaneous nerve branches and peripheral nerve trunks. On these locations the amount of bacilli and the host's immune response determine the evolution and the disease's clinical form.² Ridley and Joplin defined Hansen's disease as a spectral disease. At one end the localized or tuberculoid form (THD), associated with type Th1 immunologic response (cellular), and at the other the virchowian form (VHD), systemic, of type Th2 immunologic response (humoral); at the central part of this are the Dimorphic (DHD) or borderline forms.³

Clinically it presents from skin lesions with insensitivity areas to severe neural lesions and systemic involvement typical of multibacillary forms (MBHD), DHD and VHD. In its insidious evolution or

during reactional episodes symptoms like fever, fatigue, paresthesias, myalgias occur, which in association with cutaneous and visceral lesions make it similar to collagenosis and other systemic diseases.^{3,4}

We report a case of asymmetric polyarthritis of small and large articulations associated with cutaneous lesions, which had been treated for 2 years by a rheumatologist, with initial diagnostic suspicion of rheumatoid arthritis (RA), and afterwards, due to the onset of cutaneous lesions of Systemic Lupus Erythematosus (SLE).

CASE REPORT

Clinical History: A 65 year-old, White female, homemaker, born and from Juazeiro-Bahia-Brazil, presenting for approximately two years pain and swelling on her left metatarsophalangeal and right metacarpophalangeal articulations, that progressively evolved to the right foot, left hand, ankles and wrists. She consulted several orthopedists being medicated with prednisone and nonsteroidal anti-inflammatories (NSAIDs), and was referred to a rheumatologist, that diagnosed her as RA and continued prednisone and NSAIDs. In continuous use of prednisone (20mg/dar), she presented erythematous nodules on

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face, upper and lower limbs, paresthesia on feet and hands, and worsening of articular pain and edema, being diagnosed as SLE, and continued the treatment with prednisone associated with clonazepam. A few days latter, she presented fever, worsening of the lesions and articular pain, being hospitalized and diagnosed as eruptions induced by drugs and RA, and referred for a dermatologist.

Complementary Exams (brought by patient):

Liver and kidney function tests, C-reactive protein, protein electrophoresis, VDRL, ANF, urinalysis, glycemia, normal. High sedimentation rate - 19mm in the 1st hour and leukogram of 14,900 with 46 lymphocytes (up to 39).

Clinical Exam: Skin: erythematous-purplish plaques, erythematous papules and nodules, on face, trunk and UL and LL, face infiltration, fifth finger of R hand in moving claw, edema on hands and feet (Figures 1, 2 and 3). As there was diagnostic suspicion of VHD, an AARB search in lymph smear was requested, which resulted positive - bacterial index 3.5 (Figure 4).

Diagnosis: VHD with type II reaction

Conduct: Polychemotherapy (PCT) initiated associated with Prednisone (60mg/day) and Thalidomide 200mg/day.

Evolution: 7 days after beginning of treatment the patient presented improvement of cutaneous lesions and arthralgias; 30 days after improvement of paresthesia and after 60 days almost complete regression of cutaneous and articular lesions (Figures 5 and 6).



FIGURE 2: Erythematous nodules on face



FIGURE 3: Edema on both feet

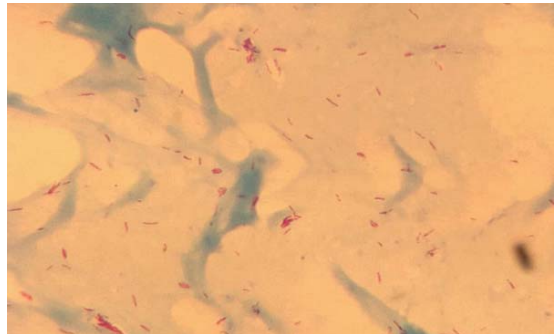


FIGURE 4: Intradermal smear with alcohol-acid resistant bacillus, single and in small groups



FIGURE 1: Erythematous nodules on thighs. Hand with edema and erythema. Fifth finger in moving claw



FIGURE 5: Edema regression on feet 2 months after start of treatment

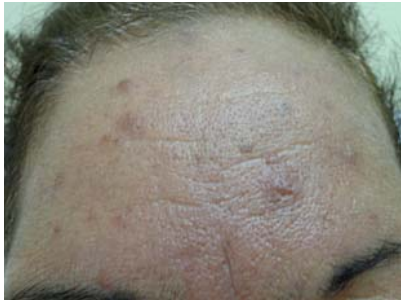


FIGURE 6:
Regression of
lesions on face
2 months after
treatment

DISCUSSION

HD must always be considered among the differential diagnoses of arthritides in endemic regions. In the literature, there are descriptions of patients with HD that were diagnosed with SLE, RA, dermatopolymyositis and systemic vasculitides.⁵ These manifestations occur mainly in MBHD, in reactional episodes and arise from infiltration and direct proliferation of the bacillus in the affected organ.⁵ According to Pernambuco et al, polyarthritis may be an initial symptom of HD and the articular manifestations that occur during reactional episodes in HD make it similar to collagenoses.⁶ Arthritides of large and small articulations occur, usually symmetrical. On type 1 reverse reaction (RR) as opposed to Erythema Nodosum Leprosum (ENL) there are no general symptoms or fever and alterations are localized. Arthritis usually occurs underlying the cutaneous lesions.⁶

The onset of polyarthritis is insidious and progressive, similar to RA. In ENL arthropathy is presented in several ways; the polyarticular form in small and large articulations, similar to RA, is the most common. It appears concomitantly with the cutaneous lesions, but may precede them.⁷⁻¹⁰

The symptoms of fever, fatigue, paresthesias and musculoskeletal complaints, associated with the dermatological lesions and visceral involvement, contribute to the similarity between HD and several other infectious pathologies or connective tissue diseases. Clinical and laboratory alterations present in SLE, in dermatomyositis (DM) and in RA are present in VHD: arthritis, malar rash, vasculitis, myalgia and myositis, lymphopenia, antinuclear factor (ANF), antiphospholipid antibodies, rheumatoid factor, anticardiolipin antibodies and ANCA, among others.¹⁰ In ENL, exams like ANF and latex may be altered in 30% of the cases. In the present case the erythrocyte sedimentation rate and CRP are normal for the patient's age, which occurred as a result of long-term corticotherapy undergone by the patient. Infectious diseases are part of differential diagnosis of rheumatic diseases in endemic environments, while a superimposition of clinical and laboratory alterations is possible. The physician, the rheumatologist and the dermatologist should employ auxiliary means like bacilloscopy and cutaneous biopsy for diagnostic elucidation. □

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