Lupus profundus and discoid lupus following a diagnosis of Kikuchi-Fujimoto disease

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INTRODUCTION

Benign histiocytic necrotizing lymphadenitis or Kikuchi-Fujimoto disease (KD) is a rare disease of unknown etiology. KD typically affects women less than 40 years of age and presents with persistent low-grade fever and enlargement of the cervical lymph nodes (LN).[1] The presence of lymphadenopathy with systemic symptoms often raises concern for lymphoma, prompting LN biopsy. The LN histopathology of KD is diagnostic, revealing characteristic necrosis, histiocytic infiltration, and karyorrhectic debris without neutrophils. KD usually follows a benign and self-limiting course. Systemic steroids and/or nonsteroidal anti-inflammatory drugs can be given to hasten resolution if symptoms are severe.[2]

The association between systemic lupus erythematosus (SLE) and KD is well documented; patients with KD frequently have a previous history of SLE or subsequently develop SLE. One long-term study spanning the period of January 1990 to December 2010 reported that 4 out of 13 (31%) of patients with KD ultimately went on to develop definite SLE, and an additional 1 out of 13 (8%) patients developed a lupus-like syndrome.[3] Others have reported an association between KD and SLE in 13%-25%.[4,5] Less commonly, discoid lupus erythematosus (DLE)[6-8] has also been reported to occur both before and after a KD diagnosis, but lupus profundus has not to our knowledge been reported. Herein, we present an interesting case of a patient with known KD who developed both DLE and lupus profundus.

Abbreviations used:

DLE:	discoid lupus erythematosus
KD:	Kikuchi-Fujimoto disease
LN:	lymph nodes
SLE:	systemic lupus erythematosus

CASE REPORT

A woman in her 20s presented to the dermatology clinic with a complaint of a pruritic rash on her left ear. Complete review of systems was otherwise negative. Medical history was significant for biopsy-confirmed KD diagnosed at an outside hospital in 2015. Physical examination revealed a violaceous plaque on the left helix; skin biopsy demonstrated interface dermatitis with underlying dense chronic inflammation consistent with DLE (Fig 1). Treatment with class 1 topical steroids was initiated. At the 1-month follow-up visit, the patient pointed out 3 new firm subcutaneous nodules with overlying faint violaceous discoloration on her left arm (Fig 2).

Biopsy of a nodule revealed a dense lymphocytic infiltrate consistent with a lobular and focally septal panniculitis; a diagnosis of lupus profundus was made (Fig 3). Laboratory studies included an antinuclear antibody titer of 1:320 in a speckled pattern. Anti-Smith and anti-double-stranded DNA antibodies were not detected, and an anti-U1RNP antibody test was mildly positive at 1.2 units (reference range, <1 unit). Complete blood count and comprehensive metabolic panel were unremarkable. The patient was referred to

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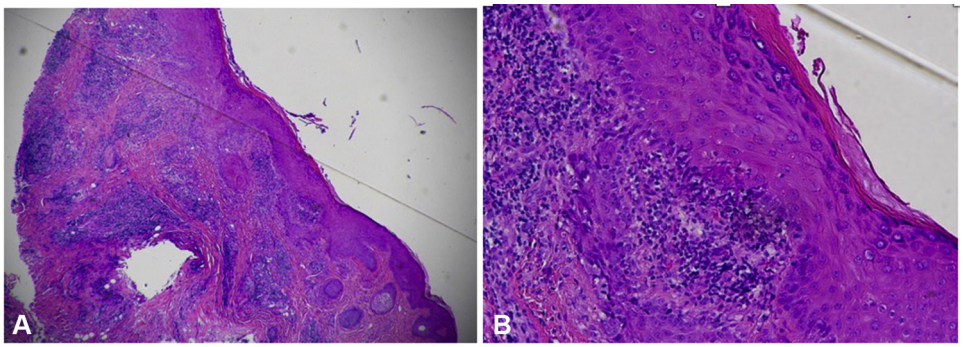

Fig 1. Biopsy of the left ear showing interface dermatitis with underlying dense chronic inflammation (**A** and **B**, Hematoxylin-eosin stain; original magnification: **A** ×4; **B** ×10.)

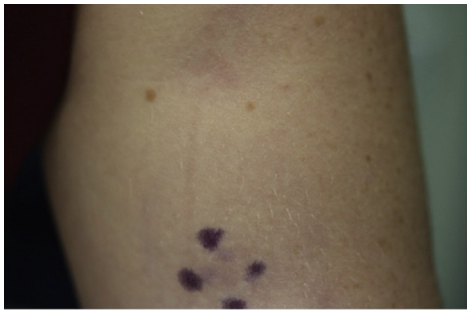

Fig 2. Firm subcutaneous nodule on the posterior aspect of the left arm.

rheumatology for further workup regarding a possible diagnosis of SLE; however, upon our evaluation, she did not meet the criteria stipulated by the American College of Rheumatology. Hydroxychloroquine 200 mg daily was prescribed with subsequent improvement of skin lesions.

DISCUSSION

While the association between KD and SLE is well documented, the reasons behind this association are not well understood. The necrosis with prominent nuclear debris on LN biopsy occurring as part of KD could lead to exposure of antinuclear antigens with subsequent development of antinuclear antibodies; alternatively, some hypothesize that many so-called cases of KD may in fact represent lupus lymphadenitis, and thus KD may represent a *forme fruste* of SLE.[9] The associations between the various forms of cutaneous lupus and KD are even less well established. To date there are 3 reports of discoid lupus in the absence of SLE in association with KD; one patient developed KD after a 10-year history of DLE,[8] and 2 others had an established diagnosis of KD and years later developed DLE.[6,7] Our patient with previously documented KD is of interest, as she developed not only DLE but also lupus profundus within 4 years of her diagnosis of KD, which has not to our knowledge been reported previously.

Given the association between KD and SLE, it is of interest to predict which patients with KD may go on to develop SLE. Female sex, positive serologies, and cytopenia are established risk factors for progression to SLE in patients with KD.[2] Notably, the presence of cutaneous lesions showing interface dermatitis is also a risk factor.[9] Our patient with several of these risk factors—including biopsy with interface dermatitis, female sex, and positive serologies—requires close monitoring for progression to SLE. In addition, lupus profundus—even in the absence of KD—is associated with the development of SLE. We hypothesize that our patient is at even higher risk, given the fact that she has both lupus profundus and KD. Treatment with hydroxychloroquine may be especially helpful in cases like ours, as early treatment with hydroxychloroquine has been associated with delayed progression to SLE.[10] Interestingly, hydroxychloroquine has also been used successfully for treatment in patients with KD, which further highlights the close association between KD and the various forms of lupus.[2]

Though KD is a rare condition, clinicians should be familiar with this entity and be particularly aware of its association with lupus erythematosus. In addition to avoidance of significant sun exposure, photosensitizing medications, tobacco use, and other factors known to be associated with the triggering of SLE, optimal management may include longer-term use of anti-malarial therapy. Appropriate patient education and long-term follow-up are clearly warranted.

Conflicts of interest

None disclosed.

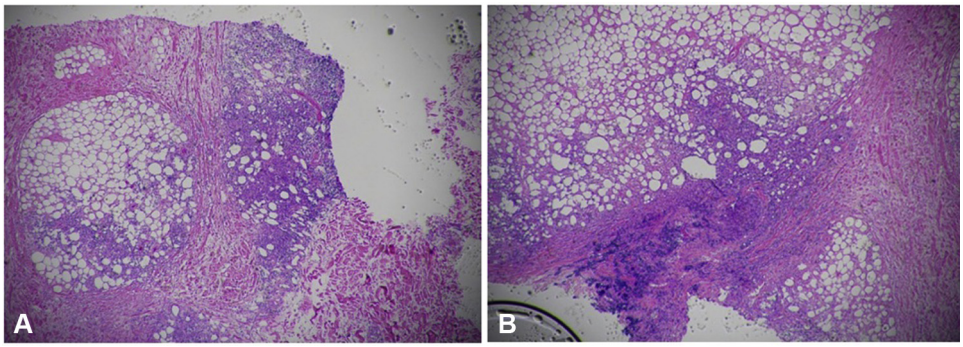

Fig 3. Biopsy of the posterior aspect of the left arm showing lobular panniculitis consistent with lupus profundus (**A** and **B**, Hematoxylin-eosin stain; original magnification: **A** ×4; **B** ×10.)

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