Not So Red in the Face: A Challenging Case of Morbihan Disease in Skin of Color

Kimberly A. Huerth, MD, M.Ed[1,2], Olivia R. Ware, BA[1], Mary P. Maiberger, MD[2]

[1]Department of Dermatology, Howard University College of Medicine, Washington, DC, Washington, DC,

[2]Department of Dermatology, Washington DC Veterans Affairs Medical Center, Washington, DC

INTRODUCTION

Morbihan disease (MD) was first described in 1956 by Schimpf et al,[1] though this attribution has also been credited to a case described by Degos in 1957.[2] Variously referred to as persistent solid facial edema, rosacea lymphedema, and morbus Morbihan,[3] MD is a rare disorder that is characterized by slowly progressive, persistent, non-pitting edema of the upper 2/3 of the face (forehead, glabella, eyelids, and cheeks).[4] Though various sources describe MD as being more common among Caucasian women in their 3rd - 4th decade of life,[5] a majority of cases in the literature feature male patients. MD has only rarely been described in skin of color, though it is unclear whether this is attributable to truly decreased prevalence, or to underdiagnosis. The etiology and pathogenesis of MD is not completely understood, but it has been suggested that vasodilation and chronic inflammation in the setting of rosacea and/or acne results in increased vascular permeability and fluid transudation,[3] and ultimately dermal remodeling and fibrosis which obstructs facial lymphatic drainage.[4]

CASE PRESENTATION

A 52-year old African American male with a history of multiple sclerosis (MS) presented with slowly progressive, non-tender facial swelling of 16 years duration. It had started as intermittent periorbital swelling that eventually became fixed and progressed to involve his forehead and cheeks. Prior to the onset of the swelling, the patient reported that his face had occasionally felt “hot and flushed,” though he could not recall any inciting factors. He additionally endorsed photosensitivity, and a grit-like sensation in his right eye which started five years prior to the first onset of swelling and around the time of his MS diagnosis. Review of systems was positive for occasional fatigue, weakness, myalgias, and asymmetric changes in visual acuity, though he attributed all of these findings to flares of his MS; none were associated with the initial onset of his periocular edema. The patient had attempted treatment with over the counter antihistamines, but these had not altered the course of the swelling. The only other medications he was taking were modafinil and dimethyl fumarate, both for his MS.

CLINICAL COURSE AND MANAGEMENT

An extensive laboratory workup and histopathologic study of a punch biopsy specimen were conducted. Based on the exclusion of several other causes of facial swelling, a diagnosis of Morbihan disease was arrived at. Given the patient’s history of MS, and his apprehension about some of the potential side effects associated with systemic isotretinoin, the patient preferred to initiate treatment with doxycycline 100 mg twice daily. After 3-4 months of consistent use that did not lead to significant improvement, the patient acquiesced to attempting isotretinoin. He began isotretinoin 20 mg daily in January 2019, and has continued this low daily dose as a result of side effects such as mild gastrointestinal upset and fatigue. Prednisone was not initiated with isotretinoin because it did not improve his facial swelling when he had taken it for MS, and he wished to avoid polypharmacy. We and the patient believe that his facial edema has improved somewhat since he first presented, though progress has been very gradual.

LABORATORY TESTS

- CBC, CMP unremarkable.
- CPK 799 U/L was elevated in 2013, and again to a lesser extent (329 U/L) in October 2018 (range 200-300 U/L).
- C1 esterase inhibitor, C1q Ag, T4, TSH, and TSI all within normal limits.
- ANA, RF, SSA, SSB, SCL-70, RNP, Smith Ab, and RPR negative.
- Dermatophagoides farina (house dust mite) Ab IgE negative.
- Monoclonal protein not observed and light chains Kappa/Lambda 1.3.

HISTOPATHOLOGY

A 4-mm punch biopsy was obtained from the right lateral periorbital area, which revealed perivascular and periadnexal lymphohistiocytic inflammation, as well as dermal edema. PAS stain was negative for fungal elements. Colloidal iron and alcian blue stains did not show increased dermal mucin.

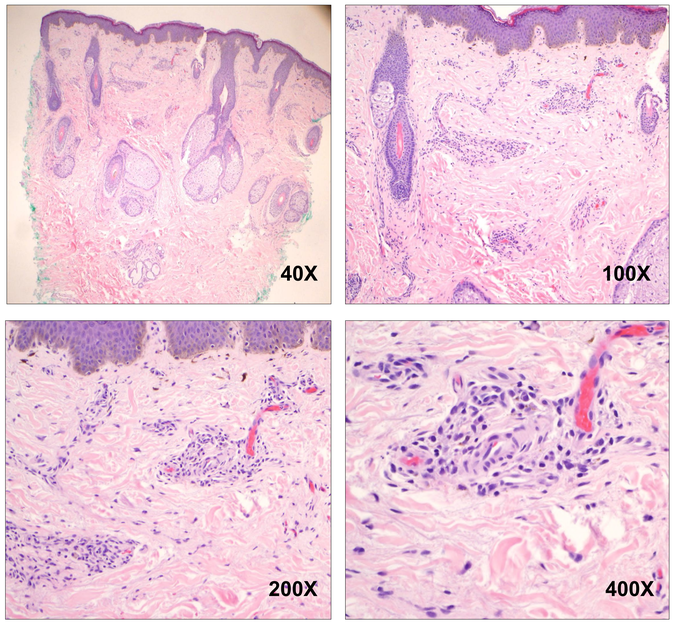

Figure 1. Histopathology. Perivascular and periadenexal lymphohistiocytic infiltrate with associated dermal edema.

Figure 2a–b. Fixed, non-pitting, periorbital and mid-facial edema.

DISCUSSION

MD is a diagnosis of exclusion, requiring a number of potential causes of facial edema to be ruled out with a thorough history, relevant laboratory tests, and often histopathologic study.[3,4] The differential diagnosis includes infectious causes (erysipelas), myxedema, drug-induced dermatoses, inflammatory granulomatous conditions (sarcoidosis, orofacial granulomatosis, Melkersson-Rosenthal syndrome), inflammatory depositional conditions (amyloidosis), allergic contact dermatitis, and contact urticaria. Patch testing is often part of the workup when considering allergic triggers.[6] Autoimmune connective tissue diseases such as systemic lupus erythematosus and dermatomyositis can also present with periorbital swelling. Of note, our patient’s elevated CPK (799 in 2013, 329 in 2018) raised concern for dermatomyositis, but this was not supported by histology. His elevated CPK may be due to multiple sclerosis, or it may be within the normal reference rage given the patient’s sex and race (for black men, a CPK of ≥ 1,200 IU/L warrants further investigation).[7] Additional serologic work up did not reveal any evidence of autoimmune connective tissue disease or paraproteinemia, and laboratory tests for thyroid disease and angioedema were negative.

The histopathologic findings in MD are nonspecific, and may include epidermal atrophy, dermal edema, mucin, perivascular and periadenexal lymphohistiocytic infiltrate, dilated lymphatic vessels, sebaceous hypertrophy, perifollicular fibrosis, and possibly mast cells.[4] MD may be indistinguishable from some forms of rosacea, and may also have an atypical granulomatous presentation with perifollicular granulomas similar to granulomatous rosacea.[5,8]

There is no standard therapy for MD. A prolonged course of isotretinoin dosed from 0.1 mg/kg/day to 1 mg/kg/day for up to 24 months, with or without corticosteroids, has reportedly been the most consistently effective and is therefore considered first-line therapy.[3,4] Alterative treatments include antibiotics (doxycycline, metronidazole), antihistamines (including transilast, an inhibitor of histamine release from mast cells), systemic corticosteroids, clofazimine, and thalidomide.[3,8] Each of these therapies may be used in conjunction with isotretinoin, with varying degrees of success[3,8] Surgical resection and treatment with CO_2 laser are other options that have been attempted for patients with recalcitrant disease.[3]

There is a dearth of reported cases in the literature of MD in skin of color. MD may go unrecognized in skin of color, as it may be difficult to appreciate erythema, which can be an early clinical clue. Likewise, rosacea in skin of color may be underreported and underdiagnosed for the very same reason.[9] Clinical characteristics common among skin of color patients with rosacea include prior misdiagnoses, and symptoms that have persisted beyond a year, both of which may contribute to more uncontrolled and progressive disease.[9] Our patient, with his history of facial flushing and photosensitivity, as well as the 16 year delay in diagnosis that he experienced, personifies these challenges and considerations.

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