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## Mycophenolate mofetil for the treatment of cutaneous lichen planus: A retrospective case series



To the Editor: Lichen planus is a debilitating, disfiguring condition that may involve cutaneous (CLP) or mucosal surfaces. Although CLP is less chronic, generalized or recalcitrant local cases may require systemic treatment.<sup>2</sup> First-line systemic corticosteroids may be unfavorable because of their adverse effects and association with posttreatment relapse, and efficacy data for steroid-sparing alternatives remain scarce.<sup>2</sup> Mycophenolate mofetil (MMF) may be viable, but data are limited to 1 case report and 1 2-patient case series; all 3 patients (hypertrophic, bullous, and disseminated CLP) achieved remission without significant adverse effects.<sup>3,4</sup> We sought to ascertain MMF's safety and efficacy for CLP with a 10patient retrospective case series.

Upon institutional review board approval, patients from a single institution who received MMF for generalized or recalcitrant local CLP between 2010 and 2019 were identified in the medical record. Patients with mucosal lichen planus, lichenoid drug eruptions, lichenoid dermatitis, or lichen planopilaris or those lost to follow-up were excluded.

Ten patients—mostly white (70%) and female (80%), with a mean age of 58 years, with hypertrophic (40%), papular (40%), and pigmentosus (20%) CLP—met the inclusion criteria (Tables I and II). MMF was initiated for generalized (70%) and recalcitrant local cases (30%), at daily doses ranging from 1000 to 3000 mg. Fifty percent of patients achieved improvement (2 mild, 2 significant, and 1 remission), mostly those with longer treatment durations (mean, 26.8 vs 7.9 months) and higher dosages (mean, 2200 vs 1200 mg). Most improvements were observed within 9 months-later than the mean onset of MMF's effects for atopic dermatitis (6.8 weeks). The patient who achieved remission displayed markedly fewer lesions and less crusting and reported significant pain relief 16 months after starting MMF. Remission was achieved at 25 months and maintained for 17 months before switching to methotrexate (MTX) because of cost and gastrointestinal upset; she experienced painful flares during MMF tapering. Two patients who experienced significant improvement (markedly fewer lesions, less scaling, and drastic reductions in both pain and pruritus) also experienced flares when discontinuing MMF. Mild improvement (slightly fewer lesions, mild relief of pruritus) was observed in 2 patients, including 1 who experienced worsening pruritus when tapering. Thus, it appears that posttreatment relapse may be a potential concern with MMF therapy. Concomitant medications in patients who achieved improvement were mostly continuations of regimens initiated before MMF (80%) and included triamcinolone, clobetasol, prednisone, and cyclosporine.

First-line topical corticosteroids and topical calcineurin inhibitors failed for all patients before MMF was initiated. Three patients received prednisone, including 1 who improved and relapsed upon discontinuation. Acitretin caused intolerable fatigue, and phototherapy was not attempted. Although encouraging results have been reported with MTX, it had previously failed for 80% of patients who achieved improvement with MMF because of poor results or unbearable nausea, fatigue, and anorexia.<sup>2</sup> MMF was well tolerated; 1 patient experienced a herpes simplex virus infection, and 1 developed anemia. Common discontinuation reasons included lack of efficacy (20%), fatigue (20%), and cost (20%).

Although the variability in lesion locations, CLP subtypes, and concomitant medications precludes definitive conclusions, these results may provide insight into a CLP treatment option that lacks extensive study.

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Table I. Individual patient characteristics and MMF regimen

| Age,<br>y/sex/race | CLP subtype         | Disease<br>distribution | CLP lesion<br>location | Previous treatments   | Maximum<br>MMF dose,<br>mg QD | MMF<br>duration,<br>months | Adjunctive medications             | Outcome (months to achieve) | Adverse effects                               | Discontinuation reason                             |
|--------------------|---------------------|-------------------------|------------------------|---|-------------------------------|----------------------------|------------------------------------|-----------------------------|---|--|
| 55/F/W             | Hypertrophic<br>LP* | Generalized             | LE                     | Prednisone 20 mg QD, MTX 40 mg QW, clobetasol 0.05% BID                               | 2500                          | 42                         | Prednisone 15 mg QD                | Remission (25)              | HSV<br>infection                              | GI upset, cost                                     |
| 63/M/B             | Papular LP*         | Local<br>(recalcitrant) | UE, trunk              | TAC 0.1% BID  | 2000                          | 4                          | TAC 0.1% BID                       | Significant improvement (4) | Gout flare                                    | Gout flare   |
| 73/M/W             | Hypertrophic<br>LP* | Generalized             | UE, LE,<br>trunk       | MTX 15 mg QW, TAC 0.1% PRN  | 2000                          | 19                         | TAC 0.1% PRN, clobetasol 0.05% BID | Significant improvement (9) | Fatigue                                       | Fatigue  |
| 43/F/W             | Papular LP          | Generalized             | UE, LE,<br>trunk       | Clobetasol 0.05% PRN, ILK, <sup>†</sup> MTX 10 mg QW                                  | 1500                          | 14                         | Clobetasol 0.05% PRN               | Mild improvement (4)        | None  | N/A  |
| 31/F/W             | LP pigmentosus*     | Generalized             | Face, UE               | Colchicine 1.2 QD, MTX 20 mg QW,<br>desonide 0.05% QD, tacrolimus 0.1% QD             | 3000                          | 55                         | Cyclosporine 300 mg QD             | Mild improvement (1)        | None  | N/A  |
| 74/F/W             | Papular LP*         | Generalized             | Bilateral<br>LE        | Clobetasol 0.05% PRN, ILK, † prednisone<br>400 mg pulse                               | 1000                          | 0.25                       | Clobetasol 0.05% PRN               | No improvement              | Tremor  | Tremor   |
| 69/F/W             | Papular LP          | Local<br>(recalcitrant) | Bilateral<br>LE        | TAC 0.1% BID  | 1000                          | 31                         | Clobetasol 0.05% BID               | No improvement              | Anemia  | Anemia   |
| 44/F/B             | Hypertrophic<br>LP  | Local<br>(recalcitrant) | Bilateral<br>LE        | TCS, <sup>†</sup> ILK 10 mg once  | 1500                          | 2                          | ILK 10 mg once                     | No improvement              | None  | Lack of efficacy, cost,<br>fear of adverse effects |
| 79/F/W             | Hypertrophic<br>LP* | Generalized             | UE, LE,<br>trunk       | Prednisone, <sup>†</sup> acitretin 10 mg QD, MTX<br>30 mg QW, betamethasone 0.05% BID | 1500                          | 2                          | Betamethasone 0.05% BID            | No improvement              | Malaise,<br>arthralgia,<br>fatigue,<br>nausea | Malaise, arthralgia,<br>fatigue, nausea            |
| 46/F/B             | LP pigmentosus*     | Generalized             | UE, LE,<br>trunk       | MTX 15 mg QW, HCQ 200 mg BID,<br>tacrolimus 0.1% BID                                  | 1000                          | 4                          | Tacrolimus 0.1% BID                | No improvement              | None  | Lack of efficacy                                   |

B, black; BID, twice daily; CLP, cutaneous lichen planus; F, female; GI, gastrointestinal; HCQ, hydroxychloroquine; HSV, herpes simplex virus; ILK, intralesional triamcinolone; LE, lower extremities; LP, lichen planus; M, male; MMF, mycophenolate mofetil; MTX, methotrexate; N/A, not applicable; PRN, as needed; QD, once daily; QW, once weekly; TAC, triamcinolone; UE, upper extremities; W, white. \*Biopsy proven.

<sup>&</sup>lt;sup>†</sup>Details regarding treatment were not recorded.

**Table II.** Overview of patient characteristics and MMF regimen

| Characteristic                        | Value, n (%)<br>(N = 10) |
|---------------------------------------|--------------------------|
| Age at MMF initiation, y              |                          |
| Mean (SD)                             | 57.7 (16.2)              |
| Median (range)                        | 59 (31-79)               |
| Sex                                   | 33 (31 73)               |
| Female                                | 8 (80)                   |
| Male                                  | 2 (20)                   |
| Race                                  | _ (_0)                   |
| Black                                 | 3 (30)                   |
| White                                 | 7 (70)                   |
| CLP subtype                           | , (, 0,                  |
| Hypertrophic lichen planus            | 4 (40)                   |
| Papular lichen planus                 | 4 (40)                   |
| Lichen planus pigmentosus             | 2 (20)                   |
| Disease distribution                  | 2 (20)                   |
| Generalized                           | 7 (70)                   |
|                                       |                          |
| Local (recalcitrant)                  | 3 (30)                   |
| Diagnosis                             | 7 (70)                   |
| Biopsy proven                         | 7 (70)                   |
| Clinical                              | 3 (30)                   |
| Body region affected*                 | _                        |
| Lower extremities                     | 8                        |
| Upper extremities                     | 6                        |
| Trunk                                 | 5                        |
| Face                                  | 2                        |
| Previous treatments*                  |                          |
| Methotrexate                          | 6                        |
| Clobetasol 0.05% ointment             | 3                        |
| Prednisone                            | 3                        |
| Triamcinolone intralesional injection | 3                        |
| Triamcinolone 0.1% ointment           | 3                        |
| Tacrolimus 0.1% ointment              | 2                        |
| Acitretin                             | 1                        |
| Betamethasone 0.05% ointment          | 1                        |
| Colchicine                            | 1                        |
| Desonide 0.05% ointment               | 1                        |
| Hydroxychloroquine                    | 1                        |
| Unspecified topical corticosteroid    | 1                        |
| Maximum MMF dose, mg                  |                          |
| Mean                                  | 1700                     |
| Median (range)                        | 1500 (1000-3000)         |
| MMF duration, months                  | ,                        |
| Mean (range)                          | 17.3 (0.25-55)           |
| Outcome                               | ., (0.25 55)             |
| Remission                             | 1 (10)                   |
| Significant improvement               | 2 (20)                   |
| Mild improvement                      | 2 (20)                   |
| No improvement                        | 5 (50)                   |
| Adjunctive medications*               | 3 (30)                   |
| Clobetasol 0.05% ointment             | 4                        |
| Triamcinolone 0.1% ointment           | 2                        |
|                                       |                          |

Continued

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Table II. Cont'd

| Characteristic                        | Value, n (%)<br>(N = 10) |  |  |
|---------------------------------------|--------------------------|--|--|
| Betamethasone 0.05% ointment          | 1                        |  |  |
| Cyclosporine                          | 1                        |  |  |
| Prednisone                            | 1                        |  |  |
| Tacrolimus 0.1% ointment              | 1                        |  |  |
| Triamcinolone intralesional injection | 1                        |  |  |

*CLP*, cutaneous lichen planus; *MMF*, mycophenolate mofetil; *SD*, standard deviation.

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<sup>\*</sup>Patients may fall into more than 1 category.

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## Dermatologic surgery during the COVID-19 pandemic: Experience of a large academic center



To the Editor: The novel coronavirus disease 2019 (COVID-19) pandemic has required significant modifications to clinical practice. In the hardesthit areas, such as New York City, triaging of personnel and supplies, as well as prioritization of certain skin cancers, was required in dermatology practices. Although clinical judgment should be used to evaluate patients on a case-by-case basis, general guidelines from the National Comprehensive Cancer Network recommend postponing treatment for low-risk lesions by 3 months, except in cases in which "debilitating progression within 3 months" was estimated by the physician.<sup>2,3</sup> However, for certain skin cancers types, including invasive melanoma, Merkel cell carcinoma, and high-risk cutaneous squamous cell carcinoma, the decision to delay care is of higher risk.<sup>2,3</sup> Prior studies have reported that delays to treatment for stage 1 melanomas may increase the risk of poor prognosis and decrease overall survival.4 Providers must also weigh the significant anxiety faced by patients who have received a diagnosis of skin cancer but are unable to receive definitive treatment. As such, for patients who require surgery during the pandemic via Mohs micrographic surgery or wide local excision, it is crucial that dermatology practices have protocols in place to provide necessary care while protecting patients and health care personnel from COVID-19. Our goal is to share our experience in practicing dermatologic surgery in the heart of the COVID-19 pandemic with an abundance of caution.

Dermatologic societies have created a living document to grade evidence regarding measures to minimize the transmission risk of COVID-19, covering topics including hand washing, personal protective equipment, risk of aerosolizing COVID-19, ventilation, and eye protection. To add to this work, we summarize measures taken at New York Presbyterian—Weill Cornell Medicine, a large academic center greatly affected by the pandemic (Table I). We also summarize our approach to

Table I. Current coronavirus disease 2019 precautions taken at Weill Cornell dermatology

| Visit        | Location  | Preventive measures taken   |  |  |  |  |
|--------------|-----------|---|--|--|--|--|
| Preoperative | Televisit | Prioritizing surgical cases via telemedicine  |  |  |  |  |
|              |           | Patient taking a self-photograph to help identify surgical site   |  |  |  |  |
|              |           | Photographic instructions sent  |  |  |  |  |
|              |           | COVID-19 screening for symptoms and instructing patients to self-monitor and report any symptoms before surgery                                   |  |  |  |  |
|              |           | Since mid-June, presurgical COVID-19 PCR testing for surgical sites in mask zone or other high-risk situations                                    |  |  |  |  |
|              |           | 24–72 h before surgery  |  |  |  |  |
|              |           | Ensure test turnover and result time appropriate  |  |  |  |  |
| Operation    | In person | Screening for COVID-19  |  |  |  |  |
| day          |           | Symptom screening and temperature check   |  |  |  |  |
|              |           | Waiting room avoidance  |  |  |  |  |
|              |           | Patients scheduled so that they can go directly to procedure rooms and remain in the room   |  |  |  |  |
|              |           | Visitors not allowed to be with the patient aside from special circumstances, including for minors and when there is a medical or legal necessity |  |  |  |  |
|              |           | Operation precautions   |  |  |  |  |
|              |           | PPE for patient: provide patient with surgical mask   |  |  |  |  |
|              |           | PPE for provider: mask (N95 $\pm$ surgical mask), goggles or face shield, hair and shoe covering, and gown  |  |  |  |  |
|              |           | Use of smoke evacuator during electrocautery  |  |  |  |  |
|              |           | Dissolvable sutures and cyanoacrylate for surgical closure to prevent need for additional visit   |  |  |  |  |
|              |           | Written and oral wound care instructions regarding wound care   |  |  |  |  |
|              |           | Sanitation steps (disinfecting room between patient encounters)   |  |  |  |  |
|              |           | Sanitary wipes to disinfect all room surfaces and any objects touched by patients   |  |  |  |  |