Mylan, Celgene, Pfizer, Valeant, AbbVie, Samsung, Janssen, Lilly, Menlo, Merck, Novartis, Regeneron, Sanofi, Novan, Qurient, National Biological Corporation, Caremark, Advance Medical, Sun Pharma, Suncare Research, Informa, UpToDate, and National Psoriasis Foundation and is founder and majority owner of www.DrScore.com and founder and part owner of Causa Research, a company dedicated to enhancing patients' adherence to treatment. Author Muddasani has no conflicts of interest to declare.

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Tofacitinib for cutaneous and pulmonary sarcoidosis: A case series

To the Editor: Sarcoidosis is a multiorgan inflammatory disease characterized histologically by noncaseating granulomas. Cutaneous involvement occurs in approximately 25% of cases. Although not all patients require treatment, for those who do, corticosteroids and steroid-sparing agents may be useful. Unfortunately, these agents are not universally effective, and use may be limited by toxicity. Unmet need exists for new safe and effective therapies. The Janus kinase (JAK)—signal transducer and activator of transcription (STAT) pathway appears to play a role in pathogenesis. Experimental studies suggest tofacitinib may downregulate JAK-STAT—dependent pathways and reduce levels of proinflammatory cytokines implicated in granuloma formation[1,2]; successful treatment of sarcoidosis with JAK inhibitors tofacitinib[1,2] and ruxolitinib[3,4] has since been reported. In this series, we report 5 patients with cutaneous sarcoidosis successfully treated with tofacitinib.

We performed a single-center retrospective study of patients who received tofacitinib for biopsy-proven cutaneous sarcoidosis between September 2017 and June 2020. Patient characteristics are presented in Table I. The patient group comprised 5 women with a mean age of 57.4 years. Diagnosis of sarcoidosis was made on clinical and histopathologic correlation. All patients had investigations for extracutaneous involvement; 3 of 5 patients had pulmonary involvement confirmed by high-resolution computed tomography (HRCT). All patients had persistent, active cutaneous disease despite previous treatment.

Tofacitinib dose ranged from 2.5 to 16 mg daily (mean: 9.0 mg), and treatment duration ranged from 4 to 9 months (mean: 6.4 months). Tofacitinib was titrated according to response and tolerability. Patient 5 also received prednisone 25 mg at treatment onset, tapered over 6 weeks. Efficacy was assessed by using the activity portion of the Cutaneous Sarcoidosis Activity and Morphology Instrument (CSAMI). The response to treatment was recorded by calculating the difference in CSAMI activity score from baseline to the most recent evaluation; a decrease in score of 5 points reflected the minimal clinically important difference (MCID).[5] Pulmonary disease was assessed by subjective improvement in exercise tolerance and, where available, serial HRCT.

All 5 patients achieved the minimal clinically important difference with tofacitinib (Supplemental Fig 1; available via Mendeley at https://doi.org/10.17632/626cszwvm2.1). Initial improvement was recorded by most ($n = 4$) within 2 months of starting treatment. One patient who achieved complete remission and discontinued treatment experienced mild relapse after 5 months; subsequent reintroduction of tofacitinib led to rapid resolution. A mean continued remission duration of 8 months was recorded for the 2 patients who achieved complete response at the time of review. The 3 patients with pulmonary sarcoidosis reported cough reduction and improved exercise tolerance. Serial HRCT imaging in patient 1 showed progressive resolution of radiologic changes. Oral tofacitinib was well tolerated in all patients. Patient 1 had transient lymphocytopenia of 0.60×10^9/L (range, 1.0-4.0 $\times 10^9$/L), which spontaneously resolved.

In this small case series, oral tofacitinib improved skin disease in all 5 of our patients with cutaneous sarcoidosis and improved respiratory symptoms in

Table I. Patient characteristics

Characteristics	Patients				
	1	2	3	4	5
Age, y	47	53	75	49	63
Sex	Female	Female	Female	Female	Female
Race	White	White	White	White	White
Cutaneous sarcoidosis subtype	Annular	Papular	Annular	Plaque	Photo-aggravated
Extracutaneous sarcoidosis	Pulmonary	Pulmonary	No evidence	Pulmonary	No evidence
Prior therapy	Topical corticosteroids, pimecrolimus 1%, ILKA, prednisone, dapsone	ILKA, prednisone, tildrakizumab	Topical corticosteroids, ILKA, prednisone, methotrexate	Tacrolimus 0.1%, ILKA, prednisone, hydroxychloroquine, methotrexate	Tacrolimus 0.1%, prednisone, hydroxychloroquine, mycophenolate mofetil
Maximum daily tofacitinib dosage, mg	16.0	16.0	2.5	2.5	8.0
Treatment duration, months	9.0	8.0	4.0	7.0	4.0
Concurrent therapies	Clobetasol cream 0.05%, ILKA 2.5 mg/ml	None	None	None	Prednisone (weaning; lowered from 25 mg daily to 0 mg daily)
CSAMI activity score, baseline	22.0	18.0	24.0	21.0	60.0
CSAMI activity score, last evaluated	4.0	0.0	0.0	3.0	22.0
CSAMI activity score decrease	18.0	18.0	24.0	18.0	38.0
Pulmonary response	Improved exercise tolerance Cough reduction HRCT pulmonary resolution	Improved exercise tolerance	—	Improved exercise tolerance	—
Adverse effects	Transient lymphocytopenia	—	Nausea	—	—

CSAMI, Cutaneous Sarcoidosis Activity and Morphology Instrument; *HRCT*, high-resolution computed tomography; *ILKA*, intralesional Kenacort-A 10 (Aspen Pharmacare Australia Pty Limited, St Leonards, New South Wales).

all 3 of our patients with pulmonary sarcoidosis. The present study, together with previous reports of tofacitinib efficacy,[1,2] raise interest to further investigate tofacitinib use in sarcoidosis. Limitations of this study include small patient numbers, retrospective nature, and lack of control group. Larger prospective studies will help validate findings.

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Hydroxychloroquine prescribing habits and impact of the COVID-19 pandemic

To the Editor: COVID-19 clinical trials and media attention have led to public familiarity with hydroxychloroquine (HCQ). Attention has been drawn to rare HCQ adverse effects, such as severe arrhythmia and cardiomyopathy.[1] Anecdotally, patients have contacted us regarding such adverse effects, despite being on long-term HCQ without issue. The purposes of this study were to characterize dermatologists' HCQ practice habits and to determine if the COVID-19 pandemic has affected these habits.

An institutional review board–exempt survey was distributed via the Association of Professors of Dermatology e-mail distribution list. Sixty dermatologists completed the survey. Eighteen respondents (30%) reported being contacted by patients regarding HCQ shortages, and 14 (23%) were contacted by patients regarding adverse effects they had seen in the media but had not personally experienced. Twenty respondents (33%) were contacted by nondermatology physician colleagues regarding adverse effects or laboratory monitoring. The COVID-19 pandemic has not changed how most dermatologists (57; 95%) will use HCQ in practice. Most respondents (53; 88%) were "very comfortable" with prescribing HCQ for indications approved by the US Food and Drug Administration, and fewer respondents (44; 73%) were "very comfortable" with off-label use. Screening and monitoring habits are presented in Supplemental Table I (available via Mendeley at http://doi.org/10.17632/f526xz9p7v.1), and counseling habits and adverse effects experiences are presented in Supplemental Table II (available via Mendeley at http://doi.org/10.17632/f526xz9p7v.1).

HCQ laboratory habits vary greatly, with 18% of respondents not obtaining baseline studies, and 25% obtaining a glucose 6-phosphate dehydrogenase (G6PD) assay before initiation. There are no reports of HCQ-induced hemolysis, and antimalarial monotherapy is thought to be safe in glucose 6-phosphate dehydrogenase–deficient patients.[2] This practice gap is likely based on theoretical concerns. Most HCQ adverse effects are symptomatic in nature, but regular screening laboratories can detect hepatotoxicity and/or blood dyscrasia, although the interval at which these tests should be performed is not well defined.[3] Reflecting this, respondents performed screening tests at varying intervals, with 22% not performing any such tests. Although formal guidelines do not exist for dermatologists, The American College of Rheumatology recommends only baseline blood counts and liver transaminase and creatinine levels before HCQ initiation and does not recommend surveillance blood testing.[4] Ophthalmologic screening habits also vary among dermatologists despite formal retinopathy screening guidelines existing, which include a baseline examination and then annual examinations after 5 years, if there are no other retinopathy risk factors.[5]