ORIGINAL RESEARCH

Disparate Prednisone Starting Dosages for Systemic Corticosteroid-Naïve Veterans With Active Sarcoidosis

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Background: Sarcoidosis is a multiorgan granulomatous disorder of unknown etiology. Clinical manifestations vary and depend, in part, on the extent and severity of organ involvement. Clinical practice guidelines recommend 20 to 40 mg prednisone daily as first-line pharmacotherapy for systemic corticosteroid-naïve patients with active sarcoidosis. This study sought to determine whether initial dosages were guideline adherent.

Methods: Records were restrospectively reviewed for patients diagnosed with sarcoidosis who were naïve to systemic corticosteroids and received initial prednisone dosages between 2014 and 2023 at the Jesse Brown Department of Veterans Affairs Medical Center. Patient demographics, medical specialty of the prescriber, and daily starting dosage were tabulated.

Results: Sixty-eight patients were identified; most were Black (n = 52, 76%) and male (n = 62, 91%), with a mean (SD) age of 63 (11) years. Pulmonologists prescribed initial prednisone dosages in the 20 to 40 mg daily range (median, 35 mg). Other specialists, including primary care practitioners, often prescribed 20 mg (median, 17.5 mg; $P < .05$) initial dosages.

Conclusions: Initial prednisone dosages varied between pulmonologists and nonpulmonologists for systemic corticosteroid-naïve patients with active sarcoidosis. However, this study did not determine reasons for this phenomenon, nor its impact on long-term patient outcomes.

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Sarcoidosis is a multiorgan granulomatous disorder of unknown etiology that impacts many US veterans.[1] At diagnosis, clinical manifestations vary and partially depend on the extent and severity of organ involvement, particularly of the lungs, heart, and eyes.[2,3] Sarcoidosis may lead to progressive organ dysfunction, long-term disability, and death.[1-3] Clinical practice guidelines recommend prednisone 20 to 40 mg daily or equivalent-prednisone dose followed by a slow tapering, as first-line pharmacotherapy for patients with active sarcoidosis who are naïve to systemic corticosteroids.[2-4]

Use of prolonged, high-dosage prednisone (> 40 mg daily) is discouraged due to a high risk of corticosteroid-related adverse events and associated health care costs.[5,6] Research suggests that initial lower prednisone dosage (< 20 mg daily) may be effective in systemic corticosteroid-naïve patients with active sarcoidosis.[3]

Adherence to this regimen by specialists (eg, pulmonologists, dermatologists, ophthalmologists, rheumatologists, and cardiologists) has not been established. This study sought to determine the starting dosages for prednisone prescribed at the Jesse Brown Department of Veterans Affairs Medical Center (JBVAMC) to patients with active sarcoidosis who were systemic corticosteroid-naive.

METHODS

Patient data were reviewed from the Computerized Patient Record System (CPRS) for individuals diagnosed with sarcoidosis who were corticosteroid-naïve and prescribed initial prednisone dosages by health care practitioners (HCPs) from several specialties between 2014 and 2023 at JBVAMC. This 200-bed acute care facility serves about 62,000 veterans who live in Illinois or Indiana. JBVAMC is affiliated with the University of Illinois College of Medicine at Chicago, Northwestern University Feinberg School of Medicine, and the University of Chicago Pritzker School of Medicine; many JBVAMC HCPs hold academic appointments with these medical schools.

Patient demographics, prescriber specialty, and daily starting dosage were recorded. The decision to initiate prednisone therapy and its dosage were at the discretion of HCPs who diagnosed active sarcoidosis based on compatible clinical and ancillary test findings as documented in CPRS.[2-4,6-10] Statistical analyses were conducted using a *t* test, and a threshold of $P < .05$ was considered statistically significant. This study was reviewed and

TABLE 1. Baseline Patient Characteristics (N = 68)

Characteristic	Cardiology	Dermatology	Neurology	Ophthalmology	Pulmonology	Rheumatology	Primary care
No.	1	6	1	6	40	5	9
Age, mean (SD), y	78	63 (3)	46	67 (8)	62 (10)	73	60 (16)
Male sex, No.	1	5	1	5	37	5	8
Race, No. (%)							
African American	1	5	0	4	35	3	4
White	0	0	0	1	3	1	3
Hispanic, Asian, or Pacific Islander	0	1	1	1	2	1	2
Body mass index, mean (SD)	25	36 (6)	27	29 (5)	30 (6)	27 (6)	28 (6)

determined to be exempt by the JBVAMC institutional review board.

RESULTS

Sixty-eight patients who were systemic corticosteroid-naïve and had sarcoidosis were prescribed prednisone by HCPs at JBVAMC. Fifty-two were Black (76%), 62 were male (91%), and 53 were current or former smokers (78%). The mean (SD) age was 63 (11) years (Table 1). Forty patients (59%) had lung involvement, 6 had eye (9%), 6 had skin (9%), and 5 had musculoskeletal system (7%) involvement.

Pulmonologists predominantly prescribed initial dosage of 20 mg to 40 mg (median, 35 mg daily) (Figure). Other HCPs, including primary care, tended to prescribe prednisone < 20 mg (median, 17.5 mg; $P < .05$) (Table 2). The highest initial prednisone dosage was 80 mg daily, prescribed by a neurologist for a patient with neurosarcoidosis. Voortman et al recommend 20 to 40 mg prednisone daily for neurosarcoidosis.[7] Both groups, pulmonologists and nonpulmonologists, had no significant differences in patient characteristics.

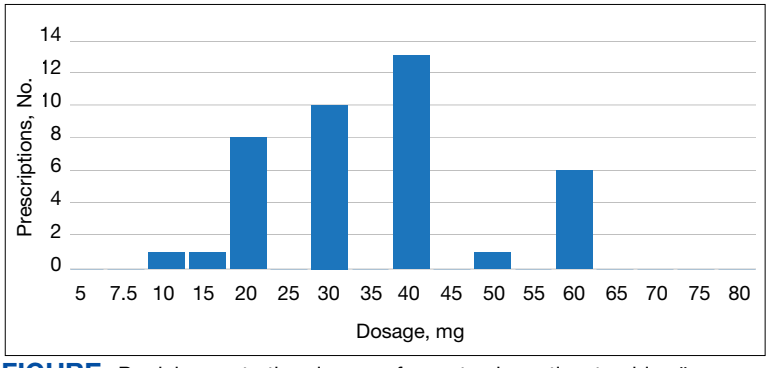

FIGURE. Prednisone starting dosages for systemic corticosteroid-naïve patients with active sarcoidosis prescribed by pulmonologists, 2014 to 2023.

DISCUSSION

Disparate prescription patterns of initial prednisone dosages were observed between pulmonologists and nonpulmonologists treating systemic corticosteroid-naïve patients with active sarcoidosis at JBVAMC. This study did not determine the underlying reasons for this phenomenon, nor its impact on patient outcomes.

Clinical practice guidelines have not been independently validated for each organ affected by sarcoidosis.[2-4,6-10] Variations in clinical practice for other specialties may account for the variable prednisone starting dosage selection. For example, among 6 patients with active ocular sarcoidosis treated by ophthalmologists, 4 were prescribed an initial prednisone dosage of ≤ 10 mg daily. The American Academy of Ophthalmology recommends an initial short-term course of prednisone at 1 to 1.5 mg/kg daily, tapered down to the lowest effective dosage.[10]

Limitations

This study used a small, single-center predominantly older Black male patient cohort. The generalizability of these observations is unknown. A larger, multicenter prospective study is warranted to further evaluate these initial observations.

CONCLUSIONS

HCPs treating patients who are systemic corticosteroid-naïve with active sarcoidosis for whom prednisone is indicated should adhere to current clinical practice guide-

TABLE 2. Oral Corticosteroids Prescribed by Nonpulmonologist Specialty (N = 68)[a]

Dosage, mg	Cardiology	Dermatology	Neurology	Ophthalmology	Primary care	Rheumatology
5	0	0	0	3	3	1
7.5	0	0	0	0	1	0
10	0	0	0	1	0	2
15	0	1	0	1	0	0
20	0	0	0	0	2	1
30	1	0	0	0	1	1
35	0	0	0	0	0	0
40	0	3	0	0	2	0
55	0	0	0	0	0	0
60	0	1	0	1	0	0
80	0	0	1	0	0	0

[a]No perscriptions for 25 mg, 45 mg, 50 mg, 65 mg, 60 mg, or 75 mg.

lines by prescribing prednisone in the 20 to 40 mg daily range.

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