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Letter to the Editor

Oral pulsed high-dose dexamethasone therapy for rheumatic diseases: An alternative safe and effective scheme

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To the Editor,

Since its discovery by Kendall and Hench in 1950, glucocorticoids have been widely prescribed for the treatment of rheumatic diseases, although it has been recognized that this drug may be a double-edged sword. For example, suppose, on the one hand, it has a rapid and potent anti-inflammatory action that may be lifesaving, on the other hand. Unfortunately, in that case, it has various side effects, such as cushingoid facies, hyperglycemia, dyslipidemia, osteoporosis, myopathy, hypertension, and acne, among others.

Several strategies have been designed aiming to obtain the best possible results from this treatment with minimum collateral effects. Glucocorticoid pulse therapy has emerged as an option and has been used to control severe disease activity quickly. It is traditionally used as 1000 mg methylprednisolone/day for 3 days, although it has been recognized that lower doses may be as effective. The use of the intravenous route has been associated with cardiovascular collapse, hypokalemia, and myocardial infarction [1].

Although the intravenous route is the most popular form of administration for pulse therapy, this treatment can also be done using the oral route or intramuscular injections. Dexamethasone has been frequently used in oral administration due to its low mineralocorticoid action. Oral pulse therapy (OPT) has been commonly used in dermatology for alopecia areata, vitiligo, and alopecia Universalis, among others, with good results [2, 3]; in neurology, it has been used to treat chronic inflammatory demyelinating polyneuropathy [4]. An exciting work by Luetic et al. [5], from Argentina, that, in times of Covid, with the impossibility of performing conventional pulse therapy, OPT has been used to treat multiple sclerosis with good efficacy. In hematology, this is one of the first-line treatments for idiopathic thrombocytopenic purpura [6]. However, in rheumatology, this form of treatment is not well known. A review of the literature points to only four studies: two in inflammatory myositis (with a total of 70 observed patients), one in rheumatoid arthritis (with 14 patients), and one in systemic lupus erythematosus (with the observation of 50 patients) [7–9]. They are summarized in Appendix 1.

The analysis of this table shows that OPT is at least as effective as other forms of glucocorticoid administration, with apparently fewer side effects than continuous oral use. However, the existing studies are few with small samples, justifying more extensive and long-term controlled trials to compare with standard treatment forms adequately. OPT remains an option to be explored in rheumatology.

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REFERENCES

1. Smith MD, Ahern MJ, Roberts-Thomson PJ. Pulse methylprednisolone therapy in rheumatoid arthritis: unproved therapy, unjustified therapy, or effective adjunctive treatment? Ann Rheum Dis 1990;49:265–7.
2. Chavez-Alvarez S, Herz-Ruelas M, Raygoza-Cortez AK, Suro-Santos Y, Ocampo-Candiani J, Alvarez-Villalobos NA, et al. Oral mini-pulse therapy in vitiligo: a systematic review. Int J Dermatol 2021;60:868–76.
3. Asilian A, Fatemi F, Ganjei Z, Siadat AH, Mohaghegh F, Siavash M. Oral pulse betamethasone, methotrexate, and combination therapy to treat severe alopecia areata: a randomized, double-blind, placebo-controlled, clinical trial. Iran J Pharm Res 2021;20:267–73.
4. Rogers AB, Zaidman CM, Connolly AM. Pulse oral corticosteroids in pediatric chronic inflammatory demyelinating polyneuropathy. Muscle Nerve 2020;62:705–9. [CrossRef]
5. Luetic GG, Menichini ML, Fernández Ó. Oral administration of methylprednisolone powder for intravenous injection dissolved in water to treat MS and NMOSD relapses during COVID-19 pandemic in a real-world setting. Mult Scler Relat Disord 2021;54:103148. [CrossRef]
6. Wali YA, Al Lamki Z, Shah W, Zacharia M, Hassan A. Pulsed high-dose dexamethasone therapy in children with chronic idiopathic

thrombocytopenic purpura. Pediatr Hematol Oncol 2002;19:329–35.
7. Kroot EJ, Huisman AM, Van Zeben J, Wouters JMGW, Van Paassen HC. Oral pulsed dexamethasone therapy in early rheumatoid arthritis: a pilot study. Ann N Y Acad Sci 2006;1069:300–6. [CrossRef]
8. van der Meulen MF, Hoogendijk JE, Wokke JH, Visser M. Oral pulsed high-dose dexamethasone for myositis. J Neurol 2000;247:102–5.
9. van de Vlekkert J, Hoogendijk JE, de Haan RJ, Algra A, van der Tweel I, van der Pol WL, et al; Dexa Myositis Trial. Oral dexamethasone pulse therapy versus daily prednisolone in sub-acute onset myositis, a randomized clinical trial. Neuromuscul Disord 2010;20:382–9. [CrossRef]

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Appendix 1. Review of the studies on the use of glucocorticoid oral pulse therapy for rheumatic diseases

Author, year	n	Design	Disease	Treatment	Outcome	Side effects
Kroot et al., 2006. [7]	F=7 M=7	Open	RA new diagnosis Median Das 28= 5.6 11- RF+ 11- anti-CCP+	Oral – N=10 – 3 groups • N*=4-10mg • N*=3-20mg • N*=3-40mg * Dexamethasone/day-four alternate days Intramuscular – 1 group. N=4–120 mg methylprednisolone/ day – weeks 0,4, and 8.	No significant differences between the four groups 9/10 with oral treatment had a favorable response after 4 weeks. • 1 (40 mg group) did not respond; • 1 (20 mg group) needed a second pulse.	Flushes after oral intake; No serious side effects
Van der Meulen et al., 2000 [8]	F=7 M=1	Open	3 DM 3 PM 2 unclassified All newly diagnosed myositis	3 cycles (28 days interval)-oral -40 mg dexamethasone/day.	6 improved; 1 DM -skin changes did not improve; 1 unclassified (with breast tumor) – no muscular improvement	Restlessness, nausea during treatment-in 5 patients
van de Vlekkert et al. 2010. [9]	F=39 M=23	Multicenter, double-blind, randomized -18 months follow-up	23-DM 26-unclassified PM 12-CTD myositis 1-malignancy inclusion body myositis excluded	N=32 - in the daily prednisolone group. Started on 70-90 mg/day and slowly ↓ after 28days. N=30 - in the dexamethasone group - 6 cycles of 40 mg/day for 4 days (28 days interval)	No difference between treatment groups; Median relapse time: • 44 weeks -dexamethasone group • 60 weeks – prednisolone group	Less frequent in the dexamethasone group.

N: Number; RA: Rheumatoid arthritis; RF: Rheumatoid factor; anti CCP: Anti cyclic citrullinated peptide; DM: Dermatomyositis; PM: Polymyositis; SLE: Systemic lupus erythematosus; F: Female; M: Male.