

Successful Treatment of Clopidogrel Hypersensitivity With a Seven-Day Taper of Oral Corticosteroid

Annals of Pharmacotherapy
2015, Vol. 49(9) 1077–1078
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DOI: 10.1177/1060028015593959
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An 85-year-old man with diabetes and hypertension was hospitalized with new-onset angina. Coronary angiography revealed significant 2-vessel disease for which coronary angioplasty was performed with deployment of 2 drug-eluting stents. The patient was given 300 mg of clopidogrel as a loading dose and continued 75 mg/day. After 24 hours, he developed a diffuse maculopapular rash all over his trunk and upper extremities (Figure 1A) consistent with a hypersensitivity reaction to the newly started medication, clopidogrel. Due to the recent stenting and the need for dual antiplatelet therapy, clopidogrel was continued, and he was started on prednisone 70 mg/day to be tapered by 10 mg each day over a 1-week period. He was also given an antihistamine (diphenhydramine 25 mg/day) for itching. The patient was observed for another day in the hospital and discharged home. He came back to the outpatient clinic after 1 week with complete resolution of the maculopapular rash (Figure 1B). Prednisone and diphenhydramine were discontinued, and he had no recurrence of the hypersensitivity reaction after 1 year of follow-up.

Clopidogrel hypersensitivity is reported to occur in about 1% of patients. The majority of those are believed to be a type IV lymphocyte-mediated allergic reaction.¹ In many cases, patients would have had recent coronary stent implantation and, thus, the drug cannot be discontinued due to the high risk of acute stent thrombosis. The only options would be either to replace clopidogrel with another P2Y₁₂ inhibitor or continuing it with the addition of oral steroids to suppress the allergic reaction. Ticlopidine has been tried in these situations, but it is reported to have about 27% cross-reactivity with clopidogrel.^{2,3} Prasugrel is another P2Y₁₂ inhibitor that has been successfully used to replace clopidogrel in these situations, but there has also been reported cases of cross-reactivity between the 2 medications.⁴ Ticagrelor is a new P2Y₁₂ inhibitor that has been successfully used in cases of clopidogrel hypersensitivity and theoretically should not cross-react with it because it is a non-thienopyridine with a different structure.⁵ However, it is relatively new and the extent of its cross-reactivity with either clopidogrel or prasugrel is not well defined. Thus, in certain cases of hypersensitivity it might be necessary to continue clopidogrel and suppress the allergic reaction with steroids to enhance the development of physiologic tolerance. The duration of corticosteroid treatment has been somewhat arbitrary so far. In a

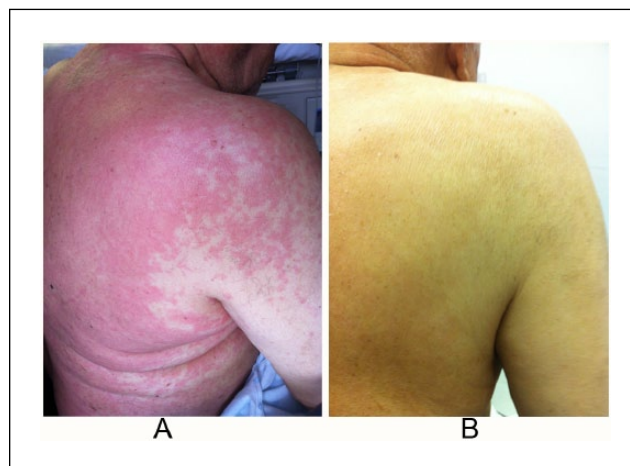


Figure 1. (A) Diffuse maculopapular rash over the trunk 24 hours after starting clopidogrel. (B) Resolution of the maculopapular rash after a 7-day course of oral prednisone.

retrospective study of 25 patients, Campbell et al⁶ reported an 88% success rate of treatment of clopidogrel hypersensitivity with corticosteroids and antihistamines for a mean of 10 ± 8 days. In the largest study by Cheema et al that characterized clopidogrel hypersensitivity reactions, a 3-week course of oral prednisone was used with a 98% success rate.¹ Our case report provides a different steroid regimen that is easier and faster to taper with a much less total cumulative dose (almost 70% reduction in dose). Actually, in the Cheema report 95% of patients had complete resolution of clopidogrel hypersensitivity after 5 ± 2 days from initiation of steroid therapy. In conclusion, our case report confirms the efficacy of corticosteroid in the management of clopidogrel hypersensitivity and further suggests that a 1-week tapering course of oral corticosteroid is probably enough for its treatment.

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