

Practical Guide to Management of Lenalidomide-Related Rash in Patients With MDS

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INTRODUCTION

- Lenalidomide (LEN) is an oral immunomodulatory medication approved in the United States for patients with lower-risk, transfusion-dependent myelodysplastic syndromes (MDS) with del(5q) with or without additional cytogenetic abnormalities¹
 - The goal of LEN treatment is to reduce or eliminate red blood cell transfusion dependence
- A recent analysis of the Celgene Global Drug Safety database showed that non-serious rash was the leading cause of permanent early discontinuation of LEN in MDS in the postmarketing setting²
 - 26% of non-serious rash events led to permanent LEN discontinuation
 - The majority of discontinuations due to non-serious rash occurred within the first 2 cycles (8 weeks) of treatment
- The real-world data contrasted with clinical trial experiences, where rash led to no or low rates of discontinuation^{3,4}
 - This suggests differences in real-world management of rash vs that in clinical trials
 - These differences may be attributable to an educational gap among oncology practitioners who treat patients with LEN
- It may take ≥ 3 cycles of LEN treatment to achieve transfusion independence¹
 - Therefore, early recognition and proper management of rash by advanced practitioners in oncology may reduce morbidity and extend treatment to optimize outcomes in LEN-treated patients with MDS

OBJECTIVE

- To provide a practical guide to management of LEN-related rash in patients with MDS, including:
 - Identification of the physiology, signs, and symptoms of LEN-related rash
 - Grading of rash
 - Management of rash
 - Patient communication tips

IDENTIFICATION AND MANAGEMENT OF LEN-RELATED RASH

General Considerations

- Most LEN-related rash is mild to moderate⁵ and may present as patchy, raised, macular skin lesions, sometimes with localized urticaria, which may be associated with pruritus
- Cutaneous reactions may be associated with immunomodulatory properties of LEN and usually require no intervention⁵
- LEN can generally be restarted after interruption without recurrence of rash⁶
- Rash may occur before the full benefit of LEN treatment. Whenever possible, continued treatment is recommended for optimal outcomes
- A practical guide to LEN-related rash is shown in Table 1

IDENTIFICATION AND MANAGEMENT OF LEN-RELATED RASH (cont)

Table 1. Identification and Management of LEN-related Rash by Grade

Grade	Example	Description ^{7,a}	Label Recommendations ¹	Published Recommendations ^{5,6}	
1		< 10% of BSA		No action recommended	Treat with topical corticosteroids and oral antihistamines until grade ≤ 1
2		10%–30% of BSA		Consider interruption or discontinuation	Treat with topical corticosteroids and oral antihistamines until grade ≤ 1; consider dose interruption for intolerable grade 2 rash
3		> 30% of BSA		Consider interruption or discontinuation	Treat with oral antihistamines or oral corticosteroids until rash is grade ≤ 1; consider dose interruption
4	Photo not available	Life-threatening consequences; urgent intervention indicated	Permanent discontinuation	No additional published recommendations	
4	Stevens-Johnson syndrome	< 10% of BSA separation of dermis	Permanent discontinuation	No additional published recommendations	
	Toxic epidermal necrolysis	> 30% of BSA separation of dermis	Permanent discontinuation	No additional published recommendations	

^a As several distinct types of rash are designated within the Common Terminology Criteria for Adverse Events (CTCAE), these descriptions have been generalized by grade. BSA, body surface area.

PATIENT COMMUNICATION TIPS

- Patients can be educated in advance using rash photos and explanations of how rash is treated and can be encouraged to promptly report signs of skin problems
- Practitioners should emphasize that it can take time to experience the full benefits of LEN treatment, so supportive care or dose interruption is preferable to discontinuation when appropriate
- Early detection and management of rash can help to optimize treatment with LEN in terms of dose and duration to maximize clinical outcomes
- Patients can be asked to describe the appearance of their medication and label, to ensure that the practitioner is aware of the current dosing (Table 2)
 - The approved starting dose of LEN for patients with MDS is 10 mg
 - Dose adjustments may also involve 5-mg or 2.5-mg capsules

Table 2. Identification of LEN Dosage¹

Dose	Label	Capsule
10 mg	Yellow border 	Blue-green and pale yellow 
5 mg	Magenta border 	White opaque 
2.5 mg	Gray border 	White and blue-green 

LEN, lenalidomide.

CONCLUSIONS

- LEN treatment can decrease red blood cell transfusion needs and promote transfusion independence in patients with MDS
 - Optimal therapeutic benefit requires adequate duration of LEN treatment
- Advanced oncology practitioners play a vital role in effective management of LEN-related rash to achieve optimal patient outcomes
- Key aspects of rash identification and management include:
 - Being aware of symptoms
 - Applying appropriate levels of intervention
 - Involving patients in self-reporting early signs of rash through upfront educational initiatives

REFERENCES

1. Revlimid (lenalidomide) [package insert]. Summit, NJ: Celgene Corporation; 2013.
2. Weiss L, Gary D, Swern AS, et al. Real-world analysis of Celgene Global Drug Safety database: early permanent discontinuation of lenalidomide (LEN) in patients with myelodysplastic syndromes (MDS) due to nonserious rash. *Blood*. 2013;122 [abstract 2975].
3. List A, Dewald G, Bennett J, et al. Lenalidomide in the myelodysplastic syndrome with chromosome 5q deletion. *N Engl J Med*. 2006;355:1456-1465.
4. Hellström-Lindberg E, Giagoundis A, Selleslag D, et al. Update on safety and long-term outcomes in lenalidomide (LEN)-treated patients with red blood cell (RBC) transfusion-dependent low-/int-1-risk myelodysplastic syndromes (MDS) and del(5q). *Haematologica*. 2012;97 [abstract 870].
5. Nardone B, Wu S, Garden BC, et al. Risk of rash associated with lenalidomide in cancer patients: a systematic review of the literature and meta-analysis. *Clin Lymphoma Myeloma Leuk*. 2013;13:424-429.
6. Giagoundis A, Fenaux P, Mufti GJ, et al. Practical recommendations on the use of lenalidomide in the management of myelodysplastic syndromes. *Ann Hematol*. 2008;87:345-352.
7. National Cancer Institute. Common Terminology Criteria for Adverse Events v4.0. NCI, NIH, DHHS. May 29, 2009. NIH publication # 09-7473.4.

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