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Remdesivir Use in COVID-19 Patients: Cutaneous Adverse Effect or Disease Manifestation?

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), responsible for coronavirus disease 2019 (COVID-19), infections and hospitalizations are rising in the United States (US).[1] On October 22, 2020, the US Food and Drug Administration (FDA) approved Veklury (remdesivir) to shorten symptom duration and recovery time in hospitalized COVID-19 patients.[2] As hospitalizations climb, remdesivir utilization will increase.

Ten-day remdesivir trials report cutaneous manifestations (rash in 7.55% (4/53) of compassionate use patients) requiring drug discontinuation in one patient (maculopapular rash and elevated hepatic enzymes).[3] A randomized, double-blind trial in China observed similar results (rash in 7% (11/155) of the remdesivir group).[4] Undescribed rash appeared as an adverse remdesivir effect under the emergency use authorization prior to FDA approval, which has been expanded to include hypersensitivity reactions in the package insert.[5]

Complicating the recognition, diagnosis, and treatment of remdesivir cutaneous toxicity is the lack of data documenting the distribution, timing, and morphology of the rash.[6] Remdesivir is an adenosine nucleoside analog. Nucleoside/tide analogs (NA) have been associated with adverse cutaneous reactions including life-threatening Stevens-Johnson syndrome and toxic epidermal necrolysis.[7,8] Dermatologists should be aware of potential cutaneous toxicity in remdesivir-treated patients.

Cutaneous manifestations of COVID-19 cloud the recognition of remdesivir adverse reactions. Distinguishing between disease toxicity and adverse drug reaction will be critical. Table 1 summarizes limited, peer-reviewed data on cutaneous manifestations of COVID-19 and reactions from select NA. As remdesivir utilization increases among COVID-19 patients, dermatologists must document and report cutaneous adverse reactions to augment current literature and lead clinical decision-making.

DISCLOSURES

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TABLE 1.

Summary of Cutaneous Manifestations Observed in COVID-19 Compared to Adverse Drug Reactions from Nucleoside and Nucleotide Analog Treatment Based on Current Peer-Reviewed Literature

Cutaneous Manifestations	
COVID-19 Morphology	**Nucleoside/Nucleotide Analogs**
Maculopapular eruptions[9]	Stevens-Johnson syndrome[7,8]
Pseudo-chilblain lesions[9]	Toxic epidermal necrolysis[7,8]
Urticaria[9]	Morbilliform/maculopapular exanthematous eruptions[8]
Monomorphic disseminated vesicles[9]	Hyperpigmentation of the skin, nails, or oral mucosa[8]
Acral vesicular-pustulous lesions[9]	Lichenoid eruption[8]
Livedo[9]	Erythema multiforme[8]
Petechiae[10]	Urticaria[8]
Erythema multiforme[9]	--

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