

# High Dose Oral Vitamin D for the Management of Acute Cutaneous Adverse Events from Anti-Cancer Therapies: A Retrospective Review of Outcomes

Christopher Iriarte, MD<sup>1,2</sup>; Goranit Sakunchotpanit, BS<sup>3</sup>; Mihir K. Patil, BS<sup>3</sup>; Sushila A. Toulmin, MD, PhD<sup>1,2</sup>; Natalie Braun, BA<sup>2</sup>; Sofia Milosavljevic, BA<sup>2</sup>; Farrah L. Ezzeddine, MS<sup>2</sup>; Thomas Z. Rohan, BS<sup>3</sup>; Lauren M. Guggina, MD<sup>2,3</sup>; Vinod E. Nambudiri, MD, MBA, MPH<sup>2,3</sup>





1) Beth Israel Deaconess Medical Center; 2) Harvard Medical School; 3) Center for Cutaneous Oncology, Dana Farber Cancer Institute and Brigham and Women's Hospital; Boston, MA

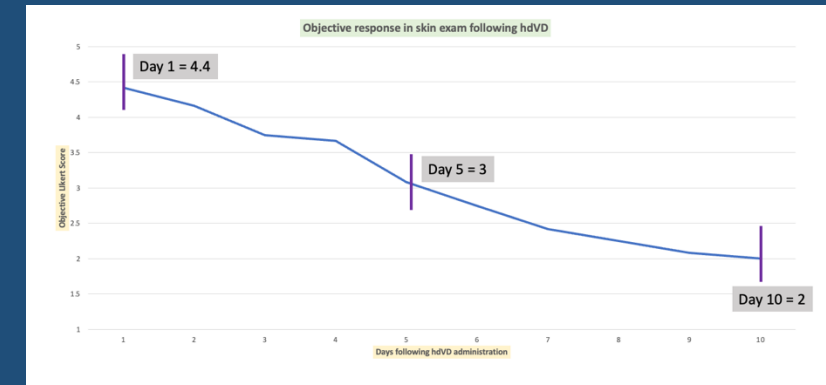
## Background

- Cutaneous toxicities from anti-cancer therapies pose considerable challenges due to limited treatment options and the need for ongoing therapy to treat underlying malignancy.
- Recent small case series have highlighted that high dose oral vitamin D (hdVD) can lead to rapid improvement of erythema and symptoms associated with toxic erythema of chemotherapy (TEC) and acute radiation dermatitis (ARD).

## Methods

- Retrospective study of patients with TEC or ARD treated with hdVD across three academic institutions between December 2021 and January 2024.
- Patient demographics, cutaneous toxicity and associated therapies, cancer diagnosis and treatment, relevant laboratory values (eGFR, calcium, 25-hydroxyvitamin D, leukocyte count and differential), and details of hdVD administration were collected.
- Thirty-three patients received hdVD (100,000 IU) for TEC (84.8%) or ARD (15.2%) across both inpatient and outpatient care settings.
- Time to symptomatic improvement (patient and physician reported) as well as objective improvement (based on a 5-point Likert scale depicted in **Table 1**) over a 10-day window following administration of hdVD were analyzed.

Likert Score	Definition	Example clinical image
4	Inflammatory erythema only	
3	Muted erythema	
2	Little to no erythema	
1	Normal skin	



## Results

- A mean drop in Likert score of 2 points was observed within the 10-day window (**Figure 2**).
- 86.2% of patients had Likert score reductions of at least 2 points within the 10-day window (**Figures 3-6**).
- Median time to clinical improvement (drop by at least 1 point) was 3 days across the cohort
- Chemotherapy and/or radiation was continued in 85% of cases.

## Conclusion

- hdVD is a promising treatment that works rapidly to improve erythema and symptoms associated with chemotherapy and radiation toxicities, leading to continuation of anti-cancer therapies and thus improved patient outcomes.

Likert Score	Definition	Example clinical image
5	Inflammatory erythema AND desquamation and/or bullae	