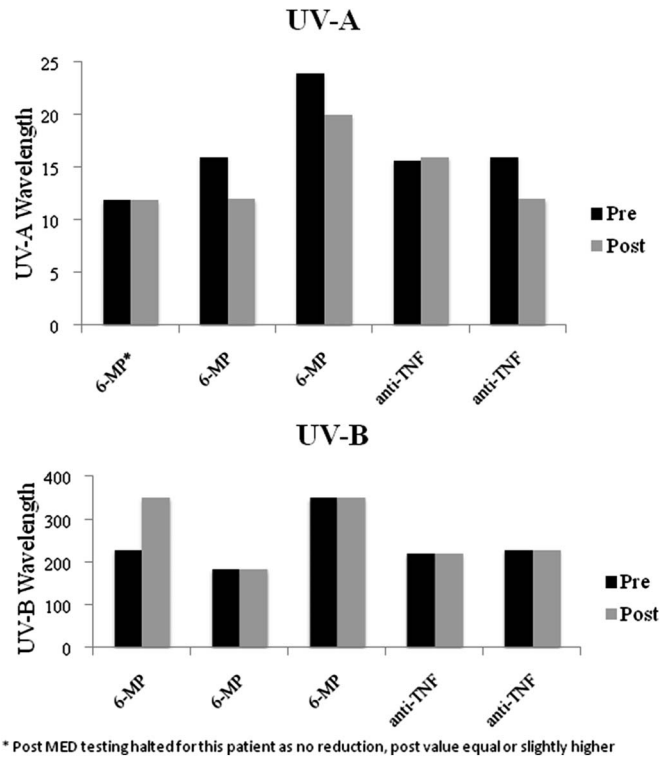

FIGURE 1. Minimal erythema dose testing for Ultraviolet-A and Ultraviolet-B light in 5 patients with IBD newly initiating therapy.

Photosensitivity to Ultraviolet Light in Patients with Inflammatory Bowel Disease Newly Initiating Immunosuppressive Therapy

To the Editor:

We read with interest the article by Kopylov et al,[1] particularly with respect to the increased risk of nonmelanoma skin cancer (NMSC) seen in patients with inflammatory bowel disease (IBD) on thiopurines. Previous studies have also shown that patients with IBD with previous and ongoing exposure to thiopurines are at increased risk.[2,3] Importantly, unlike lymphoma risk,[4] the risk of NMSC persists even after discontinuation of thiopurines, suggesting a mechanism of nonreversible DNA damage.

O'Donovan et al[5] previously observed that azathioprine users experienced a reduction in the minimal erythema dose (MED) of UV-A, the lowest amount of radiation required to produce perceptible erythema 24 hours after skin irradiation. This finding suggests that skin cancer risk may be due to mutagenic DNA damage from UV-A exposure. Additional work is needed to evaluate the effects of thiopurine and other immune suppressant treatments on both UV-A and UV-B (wavelengths most associated with sunburn) photosensitivity. We piloted MED testing before and after initiation of thiopurines or anti–tumor necrosis factor (TNF) in patients with IBD. Feasibility, obstacles, and estimations of effect size were assessed. We compared mean MED (joules per square centimeter) before and after and calculated 95% confidence intervals for the difference.

We included 3 patients initiating thiopurines and 2 initiating anti-TNF. For UV-A testing, thiopurines reduced MED (increased photosensitivity), from mean of 17.3 to 14.6 J/cm^2 (difference, −2.6 J/cm^2, 95% confidence interval, −8.3 to 3.0). Anti-TNF agents showed similar pre-MED and post-MED (mean, 15.9 and 14.0 J/cm^2, respectively, difference, −1.9 J/cm^2, 95% confidence interval, −29.2 to 25.5). For UV-B testing, neither class was associated with MED reduction (mean: 254 J/cm^2 before and 294 J/cm^2 after for thiopurines and 224 J/cm^2 before and after for anti-TNF) (Fig. 1).

MED testing is feasible, although time intensive and technically difficult. Neither thiopurines nor anti-TNF agents increased UV-B photosensitivity. We hypothesize that UV-A photosensitivity may be a factor in the increased NMSC risk in patients with IBD on immunosuppression; larger sample sizes are needed for confirmation.

Kopylov et al recommended skin cancer screening in patients with IBD. Although primary prevention of NMSC in patients with IBD through broad-spectrum sunscreen use is warranted,

The authors have no relevant conflict of interest to disclose.

DOI 10.1097/MIB.0000000000000665
Published online 20 November 2015.

we must consider the requirements for implementing a screening test as outlined by the United States Preventive Services Task Force, including the requirement for evidence that the early detection reduces mortality and morbidity—data we do not yet have in IBD. We agree that skin cancer risk awareness should be discussed in patients with IBD on immunosuppression and preventive efforts are warranted.

Millie D. Long, MD, MPH[*,†]
Kimberly Weaver, MD[‡]
Michael D. Kappelman, MD, MPH[†,§]
Hans H. Herfarth, MD, PhD[*,†]
Clare A. Pipkin, MD[§]
[*]Department of Medicine
Division of Gastroenterology and Hepatology, University of North Carolina
Chapel Hill, North Carolina
[†]Center for Gastrointestinal Biology and Disease
Chapel Hill, North Carolina
[‡]Department of Medicine
University of North Carolina
Chapel Hill, North Carolina
[§]Department of Pediatrics
Division of Gastroenterology and Hepatology, University of North Carolina
Chapel Hill, North Carolina
[‖]Department of Dermatology
Duke University
Durham, North Carolina

REFERENCES

1. Kopylov U, Vutcovici M, Kezouh A, et al. Risk of lymphoma, colorectal and skin cancer in patients with IBD treated with immunomodulators and biologics: a Quebec claims database study. *Inflamm Bowel Dis*. 2015;21:1847–1853.
2. Long MD, Martin CF, Pipkin CA, et al. Risk of melanoma and nonmelanoma skin cancer among patients with inflammatory bowel disease. *Gastroenterology*. 2012;143:390–399.e1.
3. Peyrin-Biroulet L, Khosrotehrani K, Carrat F, et al. Increased risk for nonmelanoma skin cancers in patients who receive thiopurines for inflammatory bowel disease. *Gastroenterology*. 2011;141:1621–1628.e1–5.
4. Beaugerie L, Brousse N, Bouvier AM, et al. Lymphoproliferative disorders in patients receiving thiopurines for inflammatory bowel disease: a prospective observational cohort study. *Lancet*. 2009;374:1617–1625.
5. O'Donovan P, Perrett CM, Zhang X, et al. Azathioprine and UVA light generate mutagenic oxidative DNA damage. *Science*. 2005;309:1871–1874.