

EDITORIAL

Is Absorption of Sunscreen Truly a Problem? A Careful Review Suggests it is Not.

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Skin cancer incidence continues to rise in the U.S. Sunscreen usage is a critical component of any primary prevention (behavioral change to lower the risk of developing skin cancer) strategy to lower skin cancer rates. A recent paper by Matta et al¹ (and a related editorial by Califf and Shinkai²) has created controversy among clinicians and the media regarding several FDA-approved sunscreen ingredients (Avobenzone, Oxybenzone, Octocrylene) found to have measurable plasma levels after being applied to the skin of human volunteers. This is especially critical because multiple studies have shown that skin cancer risk is mitigated by avoiding and blocking ultraviolet (UV) radiation, the primary purpose of sunscreen usage.

When critically reviewing the available data, it is clear that the findings of Matta et al are not clinically material and may also have unintended risk. We are worried that the unfounded concerns raised by Matta et al has the potential to lead to decreased usage of sunscreens, especially by those at greatest risk for developing skin cancer.

The fact that sunscreen agents applied to the skin is found in plasma is not a new

finding.³ Merely having elevated plasma levels should not automatically be considered problematic as most topically applied medications have similar findings.

FDA-approved inorganic suncreening agents such as micronized zinc oxide and titanium dioxide were declared as “Generally Recognized As Safe and Effective” (GRASE) this year by the FDA.⁴ However, these ingredients have also been found in the subcutis after application⁵. This and the other negatives of these inorganic agents also need to be integrated into any further analyses of related issues.

Higher SPF sunscreens have been demonstrated to be more protective in real-world settings.⁶ It is difficult to engineer higher SPF sunscreens without using some of the FDA-approved agents now suggested as non-GRASE. Loss of these higher SPF formulations has the potential to lead to sunscreens being less effective in skin cancer prevention.

Matta et al suggest performing larger-scale studies to further assess the implications of their findings. Beyond the associated challenging logistics, it is important to recognize that this experiment has already

been indirectly performed. Each summer weekend, millions of persons apply sunscreen with none of the hypothetical risks implied by Matta et al being seen. In addition, their arbitrary selection of an upper limit of 0.5ng/mL¹ is also problematic as there are no studies or data to support that concentration in the blood as a risk-specific level for sunscreens.

Perhaps of greatest concern is media coverage and secondary reporting of this paper has led many patients to conclude that sunscreens are dangerous – something U.S. dermatologists have been hearing from their patients every day. There simply is no evidence-based support for this claim. Furthermore, the disclaimer in the last line of their paper was not adequate to avoid creating this now widespread public misconception which we believe has the real risk of leading to decreased sunscreen usage in the future.

Given that skin cancer incidence continues to increase and that sunscreens are a critical component of primary prevention, we hope that the concerns we raise are incorporated into evaluation strategies of sunscreen safety and efficacy moving forward. Being diligent to ensure that conclusions are data-driven and that untoward negative effects on overall sunscreen usage are avoided is paramount.

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