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New FDA approved acne lasers: Where did they come from and where are we heading to?

Abstract::

Acne is the most common skin disease and there are many treatments, however millions of people suffer with recalcitrant or difficult-to-treat acne. Topical and oral treatments can fail due to patients' low compliance, side effects, and contraindications. The pathophysiology of acne is complex, involving plugging of sebaceous follicles, bacterial colonization, abnormal keratinization, and immune response. None of our current treatments are aimed at selectively targeting sebaceous glands, which are necessary for acne to develop. We found in our lab that lasers at 1726 nm, a wavelength absorbed by lipids in sebum, can selectively damage sebaceous glands in human skin, by selective photothermolysis. Recently, a 1726nm fiber laser system was tested and approved in the US for acne treatment. In this talk, I will explain the science behind the development of an acne-specific laser, show clinical results, and discuss its use in dermatology.