Cross-Sectional Study: Efficacy of Pulse Dye Laser Treatment of Infantile Hemangiomas

Brian Macias Martinez¹, Darisel N. Ventura Rodriguez¹, Marla C. Fortoul¹, Marissa Dallara⁴, Eric J. Stelnicki¹, George Kamel¹

¹. Medical Education, Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine, Davie, USA. ². College of Allopathic Medicine, Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine, Davie, USA. ³. MD, Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine, Fort Lauderdale, USA. ⁴. Allopathic Medicine, Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine, Davie, USA. ⁵. Plastic and Reconstructive Surgery, Atlantic Center of Aesthetic and Reconstructive Surgery, Fort Lauderdale, USA. ⁶. Plastic and Reconstructive Surgery, Atlantic Center of Aesthetic and Reconstructive Surgery, Fort Lauderdale, USA.

Corresponding author: Brian Macias Martinez, bm1779@mynsu.nova.edu

Categories: Plastic Surgery
Keywords: beta-blocker, surgery, pulsed dye laser, tunable dye laser, propranolol, tdl, pdl, laser, infantile hemangioma, hemangioma

How to cite this poster

Abstract
Cross-Sectional Study: Efficacy of Pulse Dye Laser Treatment of Infantile Hemangiomas

Brian Macias Martinez¹, Darisel N. Ventura Rodriguez¹, Marla C. Fortoul¹, Marissa Dallara¹, Eric J. Stelnicki, MD¹,², George Kamel, MD¹,²

¹ Nova Southeastern University Dr. Kiran C. Patel College of Allopathic Medicine (NSU MD)
² The Atlantic Center for Aesthetic and Reconstructive Surgery

INTRODUCTION: Infantile Hemangiomas (IH) are the most common vascular tumor in infants. Current treatment guidelines recommend beta-blockers, specifically oral propranolol, as the first line therapy for IHs, although beta-blocker therapy has been known to cause systemic side effects. Laser therapy may offer an efficacious alternative without the risk of systemic complications. We aim to show the efficacy of laser treatment leading to resolution without major complications.

METHODS: A cross-sectional study of 66 patients with 100 IHs from 2016-2021 was performed. Patients were identified and divided into two cohorts: oral propranolol with laser therapy (dual therapy) or laser therapy only. Patient characteristics were identified and included: patients’ age of onset and diagnoses, sex, associated syndromes, and history of prematurity. Clinical characteristics and treatment efficacy included size and number of hemangiomas, type of hemangioma, location, duration and number of treatments, and associated complications.

RESULTS: Sixty-five patients met the inclusion criteria: 46 (70.4 percent) underwent laser therapy only and 19 (29.2%) underwent dual therapy. Cohorts were similar in age of onset and diagnoses, hemangiomas per patient, hemangioma size, location, number of laser treatments for resolution, average follow-up duration, sex, and history of prematurity. Both laser only and dual therapy cohorts had similar involution rates (95.3 versus 94.1 percent, p = 1.00), however only the dual therapy cohort experienced side effects (n = 3 [15.8 percent] versus n = 0 [0 percent], p = .03).

DISCUSSION: Despite similar outcomes, dual therapy with propranolol yields a higher risk for systemic complications.