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Topical brimonidine reduces IPL-induced erythema without affecting efficacy: A randomized controlled trial in patients with facial telangiectasias

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Abstract

Background

Laser and intense pulsed light (IPL) are standard symptomatic treatments for superficial telangiectasias, but postoperative erythema, oedema, and pain may prolong downtime.

Objectives

To investigate whether topical brimonidine reduces IPL-induced inflammation in patients with moderate to severe facial telangiectasias.

Methods

A randomized, two-centre, single-blinded, split-face trial on adjuvant brimonidine and air-cooling versus air-cooling alone (control) in 19 patients treated in Denmark ($n = 10$ patients) and Belgium ($n = 9$). Brimonidine was applied to the allocated side after each of three facial IPL-treatments, given at 3-week intervals. Patients were assessed up to 1 month after the

telangiectasia clearance), and patient preference.

Results

In total, 19 patients were enrolled and completed the study. IPL induced moderate to severe erythema after each treatment. Application of brimonidine, reduced erythema to baseline values compared to air-cooling alone and sustained efficacy 24 hours after treatment (median difference reduction: score 1 at each assessment, $P \leq 0.022$). Objective erythema-scores supported clinical findings, demonstrating a median erythema reduction of 50–95% after application of brimonidine and air-cooling compared to 9–28% reduction after air-cooling alone ($P \geq 0.002$). No difference in reduction of IPL-induced oedema was observed between facial sides ($P \geq 0.227$). Brimonidine and air-cooling slightly and consistently reduced postoperative pain compared to air-cooling alone (VAS 1.0 after brimonidine versus VAS 1.5–2.0 after air-cooling alone at treatment 1–3, $P \leq 0.032$). At 1-month follow-up, patients experienced excellent clearance of telangiectasias (75–100% clearance) on both facial sides ($P = 1.000$). Patient preference supported clinical data and 79% of patients preferred brimonidine to control ($P = 0.019$).

Conclusion

Compared to air-cooling alone, adjuvant brimonidine reduces IPL-induced erythema and associated pain while maintaining a high IPL-efficacy. *Lasers Surg. Med.* 50:1002–1009, 2018. © 2018 Wiley Periodicals, Inc.



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