

Evaluation of the KTP 532 Laser in Aesthetic Facial Surgery

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Abstract. This study investigated the ability of the KTP 532 laser to reduce postoperative swelling and bruising in aesthetic facial surgery. Thirty consecutive patients receiving a laser-assist procedure (following skin incision with a scalpel, dissection and hemostasis were accomplished primarily with the laser) were compared to 16 patients who had similar technical operations but relied on scissor/scalpel dissection and electrocautery for hemostasis. Evaluations were performed by comparison of serial photographs after surgery and by patient self-assessment. The clinical observations demonstrated a noticeable reduction in postoperative swelling, bruising, and discomfort in the patients whose procedure was performed with the aid of the laser.

Key words: Laser—Cosmetic surgery—Deep plane rhytidectomy—Blepharoplasty

Most reports assessing the efficacy of laser energy in aesthetic surgery have focused primarily on CO₂ lasers. While some investigators have purported certain advantages using the CO₂ wavelength [2–4,9,10], others indicated no benefit [7]. Recently, Mittleman and Apfelberg reported on a study demonstrating the efficacy of the 1032 wavelength for aesthetic procedures [1]. Possible explanations for the varied conclusions in the mentioned studies include surgical technique, patient selection, delivery system, wavelength of energy, and method of evaluation.

The purpose of this preliminary study was to determine the efficacy of the KTP 532 wavelength when performing aesthetic procedures of the face. The properties

of this wavelength, its affinity for hemoglobin, and the fiber delivery system conceptually make it an ideal tool for aesthetic facial procedures.

Methods

For 30 consecutive patients, aesthetic procedures of the face were performed with the aid of the KTP 532 laser (Laserscope). For patients receiving a laser-assist procedure, the skin was incised with a scalpel and then the remainder of the dissection was performed primarily with the aid of the laser. A 600–100- μ m quartz fiber delivery system was used. The laser was set at 4–10 watts of power and a continuous wave. Larger vessels (approximately 1–1.5 mm in diameter) not sealed with the laser were sealed by electrocautery. Eye shields were placed over the patient's eyes, and operative personnel wore protective glasses whenever the laser was in use.

The procedure(s) performed depended on patient need/request. For a given surgical procedure, the actual technique was fairly constant from patient to patient. All but one patient receiving a rhytidectomy had a deep plane dissection following the plane along the superficial surface of the zygomaticus muscle in the malar region to release the nasolabial fold and anterior and caudal to the buccal fat pad in the lower face. The neck dissection was subcutaneous. Redundant neck fat was removed via direct excision. The single patient not receiving a deep plane lift had a subcutaneous and SMAS dissection. Patients undergoing a blepharoplasty procedure had resection of skin, muscle, and fat in the upper lid and fat removal with or without skin and muscle resection in the lower lid. The brow lift was performed in the subgaleal plane with division/excision of the depressor cilli muscle whenever necessary. The method of anesthesia, general versus intravenous sedation, was determined by the patient. Intraoperatively, patients received a local anesthetic, 50:50 mixture of 1.0% xylocaine and 0.25% mar-

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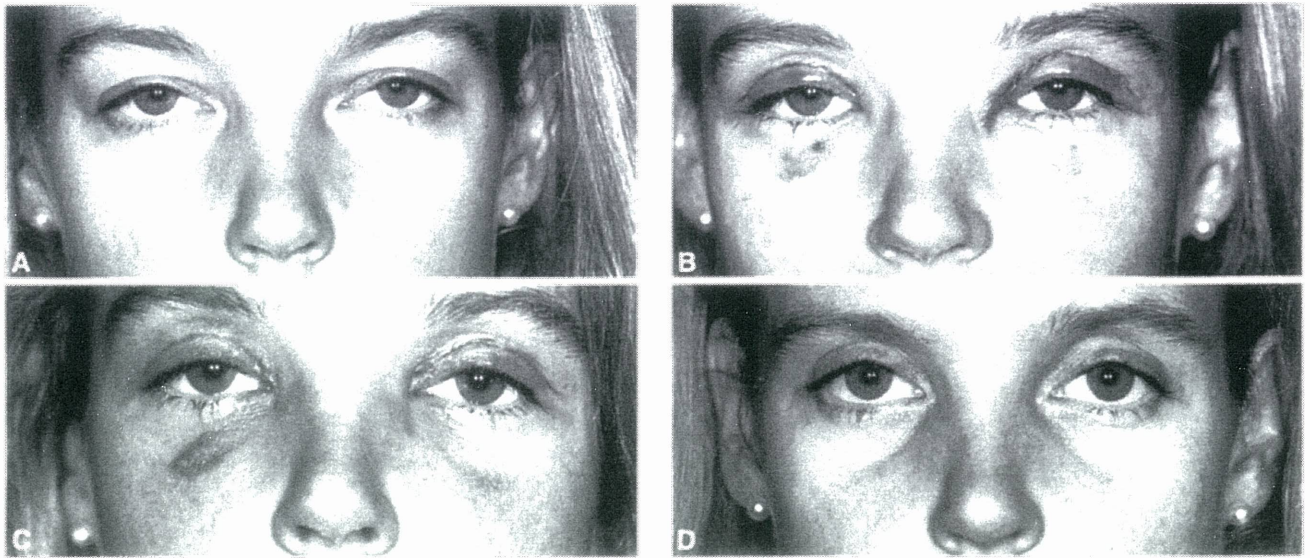


Fig. 1 (A) Preoperative view. (B) Day 1 postoperative view. (C) Day 4 postoperative view. (D) Day 7 postoperative view.



Fig. 2 (A) Preoperative view. (B) Day 1 postoperative view. (C) Day 4 postoperative view. (D) Day 14 postoperative view.