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WILEY Pediatric Dermatology

Successful treatment of a traumatic tattoo in a pediatric patient using a 755-nm picosecond laser

Abstract

We report a case of successful treatment of a traumatic tattoo in a 2-year-old patient. He presented with a green discoloration on the left infraorbital region after his sister accidentally hit him with a face paint brush while playing together. A single treatment with an alexandrite picosecond laser resulted in a complete clearance without any side effects for this disfiguring condition.

1 | CASE

A 2-year-old boy presented with a green traumatic tattoo on the left infraorbital region (Figure 1). The discoloration had resulted from a traumatic incident involving a face paint brush covered with green paint. Both the patient and his parents were greatly distraught by the appearance, with the patient constantly asking the parents to "take the green off" of his face. Various options were reviewed with the family, and based upon our favorable experience in removing green decorative tattoo ink with an alexandrite picosecond laser, it was decided to use this laser for the patient's traumatic tattoo.

The area was anesthetized topically with a cream (2.5% lidocaine, 2.5% prilocaine) for 20 minutes, and additional anesthesia was achieved with local infiltration using 1% lidocaine with epinephrine. The nursing staff and the father helped to hold the patient still during the quick procedure. Proparacaine hydrochloride 0.5% ophthalmic solution was used for anesthesia. The upper eyelid was retracted to allow for smooth placement of the child-size corneal eye shield, followed by slight retraction of the lower eyelid to slide over the eye shield.

Gauze pads followed by metal eye shields were placed over the patient's eyes and held firmly by the nursing staff to ensure eye protection during the treatment. A 755-nm picosecond laser (PicoSure, Cynosure) was used with the setting of 3.0 mm, 2.3 J/cm^2, 2.5 Hz, and 750 ps. An ideal end point of whitening was achieved. The

FIGURE 1 Traumatic tattoo composed of a green paint on the left infraorbital region

FIGURE 2 Complete clearance achieved as noted at the 1-month follow-up visit

parents were instructed to apply a petrolatum-based ointment twice a day to the treatment area. At the 1-month follow-up, the patient was noted to have achieved complete clearance without any scarring or dyspigmentation (Figure 2).

2 | DISCUSSION

Pediatric patients often present with challenging cases from unusual accidents. The challenge is further compounded by the fact that many physicians do not feel comfortable performing laser treatments on pediatric patients, especially in the periorbital region. Options for treating traumatic tattoos include surgical excision and dermabrasion, with Q-switched lasers being the standard method of scar-free tattoo removal.[1,2] The advent of picosecond lasers, which produce a much shorter pulse duration leading to a better photothermal and photomechanical effect, has further improved tattoo treatments in the recent years.[3] In particular, the 755 nm alexandrite picosecond laser has shown rapid removal of green and blue colors.[4]

Especially given the location, the traumatic tattoo in our case was greatly distressing to the patient and the parents. Had the patient not been treated, the noticeable discoloration in the easily visible region would have had a significantly negative psychologic impact on the child. Having experienced nursing staff to stabilize the moving child and providing appropriate eye protection are vital to ensure safety during the laser procedure involving a rep rate of 2.5 Hz. It is important to note that the laser treatment did not require the use of general anesthesia and did not require wound care other than applying a petrolatum-based ointment for a few days. A quick, single treatment with the laser achieved complete clearance without any complications, resulting in highly satisfied patient and family.

Keywords
alexandrite, face paint, green, laser, picosecond, traumatic tattoo

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