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November / December 2003

Sinon Achieves Tattoo Removal in Ethiopian Skin Types

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Between 1977 and 1991, Israel witnessed the mass immigration of almost the entire Jewish population of Ethiopia, numbering about 50,000 people. In Ethiopia, the Jews lived primarily distant from their Christian neighbors, although cultural influence was inevitable. Performance of tattoos, usually cross shaped, placed on forehead, chest, neck or arms, mostly in women, is very common among Ethiopian Christians. This practice was also adopted by the Jews.

The absorption of the Ethiopian Jews into Israeli society has been accompanied with many obstacles, especially since state religious institu-

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tions did not officially recognize their status as Jews. In these circumstances, their tattoo marks symbolize a different religion and culture. During the years 1997 - 2003 we used laser techniques for tattoo removal on over 24 Ethiopian Jews. This treatment was an extraordinary challenge from a medical and social point of view.

Patients and Methods

The study sample consisted of 24 patients, 23 women and 1 man, of Ethiopian origin, who presented for laser therapy for cosmetic tattoo

removal. All had Fitzpatrick skin types V or VI. Age range for the group was 15 to 48 years (average 23.4). All tattoos were blue/black and were made by injecting charcoal into the skin.

Most tattoos (n=21, 87%) were located on the forehead or on the forehead and temples (n=15). Sixty-two percent were cross shaped, and the remainder were in the form of a sun, circle or chain. We used the Q-switched ruby laser (Sinon, WaveLight, Germany) for treatment.

Patients underwent three to six laser treatments (average 3.6 per patient) at intervals of at least eight weeks. The percent of clearing was scored by two independent investigators on a quartile scale: 1=0% to 25%; 2=26%-50%; 3=51%-75%; 4=75%-100%. Pigmentary and textural changes were classified as none, mild, moderate, or severe. The duration of follow-up after the last treatment was six to eight months.



Before Tx



After Sinon Tx

Results

Good clearance (90%-100%, score 4) was achieved in 92% of the patients (n=22) after the last laser treatment. In the remaining patients, 75%-90% clearance was documented (score 3). Most of the patients showed no

changes in skin pigment or texture after treatment. Transient (two to four months) mild hyperpigmentation was noted in six patients. There were no cases of scarring or permanent pigmentary changes.

Discussion

The interaction of the medical community in a developed country with a population from a developing country opens a broad range of areas of study and research. Tattooing, in general, and cross shaped tattoos, in particular, was a common practice among Jews in Ethiopia, but became a major obstacle for their integration to Israel due to the negative attitude of the Israeli religious authorities towards tattoos.

Laser technology has provided a new means for the safe and effective removal of tattoos. Still, its safety for dark pigmented patients was doubtful for many years, until new evidence, first published by Grevelink *et. al.*, demonstrated that the Q-switched laser treatment can be performed successfully in this population. The main limitation of these studies was their small sample of patients. The present study included a group of 24 patients

with Fitzpatrick skin types V and VI and carbon-based tattoos.







In agreement with earlier studies, the medical and aesthetic outcomes were excellent – 90% to 100% clearance in 94% of cases, with only limited and transient side effects, similar to results in light skinned patients. Our study demonstrates the usefulness and safety of laser technology for tattoo removal applied in dark pigmented patients with amateur, carbon based tattoos, and has important implications for treating many dark ethnic skin types throughout the world. ■



Before Tx



After Sinon Tx

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