Microneedle salabsorption for removal of recent tattoos

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CLINICAL CHALLENGE
Some persons regret having a tattoo done soon after the procedure and seek dermatologists to request its immediate removal. Laser tattoo removal can be challenging because it requires specific wavelengths for particular ink colors and skin tones, which are not available in all dermatology clinics.

SOLUTION
A possible solution is to perform microneedling with a tattoo machine, spread a 50% salt (sodium chloride [NaCl]) gel over the area, and cover it with an occlusive dressing for 24 hours. Microneedling creates small channels that allow the salt to absorb the pigments; this is called “microneedle salabsorption” (salabsorption video is available at https://youtu.be/5al18gLHMTU). After 30 days, a variable elimination of the pigment can be seen, depending on the depth of the ink injection (Fig 1).

In the first 4 days after tattooing, the pigment is usually scattered within the epidermis and dispersed in the dermis.1 This is a window of opportunity to remove the pigment before it undergoes macrophage phagocytosis.2

Microneedle salabsorption was inspired by salabrasion. Scars and dyschromia that are reported in patients treated with salabrasion are related to the ablation depth that is used to remove pigments that are deeply embedded in the dermis. The main difference between microneedle salabsorption and salabrasion is that the former causes less epidermal damage.

Microneedle salabsorption is painful because of the recent manipulation of the area by the tattoo artist; therefore, it requires local anesthesia. The technique is superficial but must be precise. In some cases, it is possible to see the pigment being eliminated during the procedure. Pigment removal is less effective in outer tattoo lines because, in these areas, the tattoo artists use “liner” needles that introduce pigment deeply into the dermis. It is important to explain to the patient that microneedle salabsorption will produce a partial pigment removal; however, it will reduce the number of subsequent laser sessions.
We do not recommend microneedle salabsorption to remove old tattoos or deeply injected pigments. Although imiquimod can be an alternative treatment to remove recent tattoos, it may cause dermal fibrosis and loss of dermal appendages.²

**Conflicts of interest**

Dr Arbache is the owner of Traderm, a profit-oriented company that sells tattoo machines and cartridges for tattoo machines to be used by medical doctors. He is also the owner of a medical education company. Dr Hirata has no conflicts of interest to declare.

**REFERENCES**


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**Fig 1.** Tattoo on the upper portion of the right arm of a young man as seen 36 hours after dermopigmentation. A, *Red arrows* point to the control areas that did not receive microneedle salabsorption. B, No scars were found 30 days after the microneedle salabsorption. The pigment removal was irregular because this tattoo was done using a liner needle. Microneedle salabsorption reduced the number of subsequent laser treatment sessions.