

Tattoo and Complications: Some Cases during Everyday Practice

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Abstract: *Doing a tattoo is a well known procedure since ancient time for religion or esthetic purpose. A tattoo is the application of the ink into the skin. It is realized with a needle or not and with permanent or non permanent inks. This procedure is followed by different side effects or complication. In this paper we show some different complications after the application of a tattoo or after the procedures for tattoo removal. As the popularity of tattooing continues to rise, so in this way is rise and the potential complications and adverse effects. Our aim is to present the risks and the complications after doing a tattoo and after procedures for tattoo removal. In this paper we report some of our clinical cases of different complications after doing a temporarily or permanent tattoos, and after laser application for tattoo removing. These risks might be: infections (bacterial or viral), inflammatory reactions, allergic dermatitis, keloids or hypertrophic scars. We have reported either some dermatologic disease localized in the tattoo.*

Keywords: tattoo, complications, Laser complications, removing.

1. Introduction

A tattoo is the application of the ink through a needle or not in the skin. Doing a tattoo for cosmetic purpose, mentality, fashion and religion has been a habit for eon of years in many countries. The word tattoo derives from "tatau" the Tahitian word for "to strike". The first tattoo machine was invented in 1890 and this procedure was high in popularity in UK and USA during the 20th century (1). Some of these tattoos are permanent and some are done with hena ink that keeps some weeks. The presentation of the foreign substance in the skin and the contact with the needle can cause some side effects and complication. Either the way of the elimination of the tattoo can cause complications. The incidence of their complications is rising (2,3). In Albania doing a tattoo is the latest trend among young people. During the communist regime in Albania tattoo were done mostly by men in army or sailors. Actually is becoming more frequent among young people of both sexes. Our public health investigation could not confirm the point of contamination. Between these papers we are sharing our experience about tattoo complications.

2. Cases Reports

Case Nr 1: The development of sarcoidosis after tattoo application: elements localized on the ankles two years after the tattoo in a woman 37 years old. The diagnosis of sarcoidosis was made by biopsy. In this clinical case manifestation of sarcoidosis do not appear to be related to

systemic sarcoidosis, but it is a sarcoidal reaction to a foreign body.



Figure 1: Reddish – purple papules and nodules arranged in an annular pattern around tattoos.

Case Nr 2. A 12 years old patient with allergic contact dermatitis with erythematous papules, vesicles and slightly scaly appears 4 days after a temporary tattoo.



Figure 2: Allergic contact dermatitis with erythematous papules, vesicles and slightly scaly

Case Nr 3. Patient that never has noticed any psoriatic lesion in the body was diagnosed with Psoriasis vulgaris after a tatto.



Figure 3: The presence of Koebner fenomenon after the trauma of doing a tattoo



Case Nr 4. The formation of Keloids after laser application for removing the tattoo. Keloids looks shiny and dome-shaped ranging in color from pink to red.



Figure 4: Keloids after laser application for removing the tattoo



Case Nr 5. Disfigurement after laser removing of a tattoo.



Figure 5: Disfigurement after laser removing

3. Discussions

The complication of doing a tattoo or the procedure for tattoo removal can be associated with different complications that can be classified as infection, immunologic reaction or others. Although significant infection secondary to tattoos is currently unusual, infection may be introduced into the skin during the breach of the epidermal barrier. The sources of the infections might be: the tattoo needle, the person who do the tattoo, the ink, the water used for the dilution, hygienic conditions after the tattoo (4). Today localized infection secondary to gram-positive bacteria are noticed frequently resulting in impetigo, pyogenic infection, and fasciitis necroticans. Transmission of tuberculosis, syphilis, leprosy, hepatitis, and HIV has also been recorded (4). By using a previously used and infected tattoo needle, inoculation and person-to-person transmission of viruses, including vaccinia and human papilloma virus, coxidia have been reported (5). Another complication of tattoo removing is allergic contact dermatitis like in our Fig 2. This last especially caused by the pigment in the ink of the tattoo or either by the needle are noticed and reported (1,6). It might happen days, months and either years after the tattoo have been done. There are reported especially cases with allergic contact dermatitis (ACD) by henna (paraphenyldiamine) or organic temporary inks, and most often ACD caused by red ink (red dyes and mercury) (7). Regarding to the ACD caused by black ink there have been reported a fewer number of cases (8-10). With time passing there are different motives and different ways for tattoo removal (11). The way of removing a tattoo is: Grafting-Surgery, Laser, local destruction (dermoabrasion), thermal destruction (cigarettes, hot needle, burning), infrared coagulation, chemical peels (TCA, Phenol). Laser tattoo removal is an adequate modern way of removing a tattoo. The lasers that are used for this purpose are Q-switched, CO₂ ablative, Erbium. Removing a tattoo with laser is a long procedure and needs an unpredicted number of sessions. It costs a lot, is painful and sometimes is not esthetically good. Some tattoo colored such are red and yellow are particularly difficult to remove. Although black tattoos are more easily treated, multiple sessions are necessary and transient hypopigmentation is a common side effect. Side effects and

complications could be: burn, transient or not hypopigmentation, postinflammatory hyperpigmentations, scars or keloids. Sometimes it might happen a bullous reaction just after or some days after the laser therapy. There have been reported vary rarely either transient localized lymphadenopathy. The Q-switched ruby laser however remains the best treatment option for tattoo removal. Late hypersensitization against tattoo pigment it might cause a pseudolymphomatous reaction (13). Pseudolymphoma can be developed after the exposure against different foreign substances such are insect bite, acupuncture, different injection, tattoo (12,13). Mostly pseudolymphoma is induced most often after a red tattoo, rare in green and blue tattoo (15). The clinical elements were similar to elements of lymphoma B and the differences diagnoses must be done by histopathology and immunohistochemistry. Sarcoidosis is an autoimmune disease of unknown etiology characterized by the presence of non-caseating epithelioid cell granulomas in multiple organs. Cutaneous sarcoidosis occurs in approximately 25% of the cases. Sarcoid reactions on old scars, traumatized skin sites and around embedded foreign material have long been observed (16). For the past 70 years, sarcoidal granulomas on tattoos and permanent make-up have also been documented. Granulomatous and sarcoidal tattoo reactions may be the first and sometimes only cutaneous manifestation of systemic sarcoidosis (16,17). A tattoo can mask the presence of different skin cancers in the tattoo or around it. There is no evidence correlation between cancer of the skin and tattoo. In the literature have been reported few cases diagnosed with melanoma in the tattoo. The combination of Indian ink and radiation it was supposed to have oncologic peculiarities (18). There are reported some cases of keratoacanthoma on the red tattoo or tattoo with different multiple colors (19).

4. Conclusions

Making a tattoo is an aesthetic procedure accompanied with different complication and some of them life threatening. These cases are examples of the most risks adverse reactions after the tattoo making during everyday practice in our country. So our advice is to take care about doing and removed of tattoo.

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