

Lichenoid Reaction To Colored Professional Tattoo Of Skin.

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Citation

A Levy, A Bogdanov-Berezovsky, Y Krieger, L Rosenberg, E Silberstein, N Sion. *Lichenoid Reaction To Colored Professional Tattoo Of Skin.*. The Internet Journal of Plastic Surgery. 2010 Volume 7 Number 2.

Abstract

The modern colorful permanent tattoos are usually performed by professional tattooist. Solid pigment/ink particles injected through the epidermis into deep dermis can cause multiple adverse reactions. We report the case of 46 years old woman that was admitted to the plastic surgery outpatient clinic with ulcerative skin lesions on her right ankle's tattoo. According to her history, 2.5 years previously dual color tattoo (black bracelet with three red hearts in it) was performed in a professional tattoo clinic. On physical examination, the patient had a circular black tattoo pattern with 3 heart shape ulcerated skin lesions interposed in the tattoo on her ankle. Under local anesthesia the largest, central lesion was excised. Histology examination of the skin specimen revealed combined lichen planus reaction in the center of the lesion and peripheral granulomatous sarcoid type reaction.

CASE REPORT

We report a case of combined lichenoid and granulomatous reaction developed in the red part of the 2.5 years old tattoo on the patient's right ankle.

A 46-year-old woman admitted to plastic surgery outpatient clinic due to slow growing lesions on her right ankle tattoo. According to her history 2.5 years ago dual colored tattoo bracelet (black circumferential pattern with three red interposed hearts) was performed in a professional tattoo clinic. The lesions had been growing for 7 months. The dye used for the tattoo was "Millennium colorworks inc. Monthly red". The main ingredients of the red pigment according to manufacturer annotation was CI#12475 (4-[[4-(aminocarbonyl) phenyl]azo]-N-(2-ethoxyphenyl)-3-hydroxy-2-Naphthalene Carboxamide) combined with glycerin, water and alcohol. There were no signs of local inflammation of the surrounding skin or regional lymph node involvement. The patient is a heavy smoker, suffers from epilepsy, currently treated with Topiramate and Phenytoin. She does not have any known allergies. She has another two tattoos on her chest and abdomen (blue shark). She had an episode of deep vein thrombosis and pulmonary embolism in the past.

The lesions on her ankles were previously treated by a

dermatologist with local antihistamines and steroids injections for few months without any improvement. The local findings on her ankle were a black tattooed bracelet with 3 heart shaped, ulcerated skin lesions on red background of the tattoo, resembling Squamous cell carcinoma (figure 1). The biggest lesion measured 15 x 10 mm, restricted exclusively to the red part of the tattoo and was excised under local anesthesia by plastic surgeon preserving the main design of the tattoo.

The wound had healed well with normal linear scar.

Histological examination (hematoxylin eosin staining) revealed inflammatory response of the tattooed skin resembling hypertrophic lichen planus reaction in the center of the lesion and peripheral granulomatous reaction (sarcoid type).

Figure 1

Figure 1+2. Skin lesion resembling SCC on the red part of tattoo.



Figure 2



DISCUSSION

A number of causative agents, mainly metallic dyes such as green chromium, blue cobalt, purple manganese, yellow

cadmium and red mercuric sulphide (cinnabar) have been implicated in tattoo reaction^{1,2}. Mercury in red tattoos is well known to be a cause of cutaneous reactions³ and has been replaced by ferric hydrate, cadmium selenide and vegetable dyes, however adverse reactions still occurs².

Most tattoo professionals do not know the exact composition of the pigment that they use⁴ and even less the complications that they cause.

Due to the character of the tattoo “patients” and the un-professionalism of many tattoo artists very few complications are reported.

The presented case shows combine lichenoid and sarcoid reaction to red colored tattoo caused by the agent CI#12475. That is the only ever medical report of this reaction with that agent. Due to ulcerative character of lesions and suspicion of malignancy the lesion was surgically removed.

A good aesthetic result with inconspicuous scar that merges with the tattoo has been achieved. After diagnosis of the lesion has been established, the patient insisted not to remove the two remaining tattoos.

We recommend in a case of late skin reaction on a tattoo, removing suspicious skin lesions, make an effort to preserve the tattoo aesthetic appearance and report the case/s.

References

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