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Short Communication

Tattoos in Patients with Systemic Lupus Erythematosus: A Review

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ABSTRACT

Cosmetic tattooing has become a widespread practice worldwide, especially among young people. Many patients with chronic diseases are interested in this fashion and may ask their physician for information about it. Patients with Systemic Lupus Erythematosus (SLE) are no exception. However, there is little evidence on the safety of tattoos for people with this illness. Thus, there is scarce information about the immediate complications associated with tattoos, the effect of immunosuppressive treatment on the risk of infections and the impact of the tattoo on clinical activity and the prognosis of patients with SLE. This knowledge can help physicians properly advise patients who intend to get a tattoo to avoid possible complications.

Keywords: Cosmetic; Lupus erythematosus; Neuropsychiatric lupus; Lupus pneumonitis

INTRODUCTION

Tattoos are defined as the introduction of exogenous pigments into the dermis in order to produce a permanent design for cosmetic, ornamental and even medical reasons. Cosmetic tattooing has become mainstream worldwide, especially among individuals aged between 18 and 40 years [1]. This fashion is not restricted to healthy individuals and many patients with chronic cutaneous and/or systemic diseases may also be interested in getting tattoos [2]. Therefore, specialists in these conditions should be familiar with the potential immediate, short and long-term complications associated with this practice, in order to provide good advice to patients who intend on getting a tattoo so that they can avoid regret and complications.

Systemic lupus erythematosus (SLE) is a chronic multi-organic autoimmune disease that mainly affects women of childbearing age, just the age at which tattoos are most frequently requested among the general population, and many of them ask for information about the possibility of getting a tattoo. However, as far as I know, there is only a small case-control study recently conducted by our group aimed at investigating the safety of tattoos in these patients [3]. In this review, some considerations such as the motivations for getting a tattoo, prevalence, characteristics of tattoos and safety in patients with SLE are reviewed.

MOTIVATIONS

The motivations for getting tattooed are complex and rarely restricted to one single reason [4]. This question has been analyzed in the general population, concluding that the decision to get a tattoo is influenced by individual reasons, gender, and cultural and/or geographic factors. In an international online survey among a representative sample of the general population from five major countries (Brazil, China, France, Russia and USA) motivations for being tattooed mostly included celebrating a milestone (25.6%), embellishment of the body (24.6%) and expressing individuality (14.8%) [5]. Other motivations were: to express love/affection, self-affirmation, reclaiming one's own body, pain threshold test, group affiliation, cultural or religious reasons and eroticism/sexuality. There were differences according to gender (embellishment of the body for women and testing one's own pain threshold, cultural/religious reasons, group affiliation and expression of love or affection for men) and also according to the country (e.g. in Russia tattoos were mostly associated with body embellishment while in China they expressed love or affection).

The motivations for getting a tattoo have not been studied in patients with SLE. However, some considerations should be addressed. Throughout the disease, some SLE patients may present clinical manifestations and complications such as rashes,

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scars, hair loss, joint inflammation and deformation and weight gain, among others, that may have a negative impact on body image and self-perception. Often these circumstances are a major concern for patients with SLE and they have been associated with mental disturbances such as depression and a worsening of a healthy quality of life [6,7]. It could be considered that such circumstances could influence the decision to get a tattoo in order to improve the self-perception of one's body image. However, in our study [3] the majority of tattooed SLE patients had a stable disease with a low activity; they were well controlled with low to moderate-dose treatments and had little organ damage at the time of the tattoo. In addition, no patient got tattooed on any active or scar skin lesion in order to hide it. Therefore, it seems reasonable to assume that patients who feel unwell because they have an uncontrolled illness may not wish to get a tattoo. Based on these considerations, although in our study patients were not specifically asked about this concern, I speculate that the motivations for getting a tattoo are unlikely to be directly related to the disease and that in the majority of SLE patients the incentives are similar to those cited by the general population. Also, it is possible that the decision to get tattooed can be influenced by the desire to improve one's mood or self-esteem, which may be altered in these patients. These suggestions must be confirmed in further studies.

PREVALENCE AND CHARACTERISTICS OF TATTOOS IN SLE PATIENTS

The prevalence of tattoos in the general population worldwide varies depending on the country. In the international population-based study mentioned above [5], the prevalence ranged from 11.7% in Russia to 31.5% in the USA, with an overall mean of 18.5%. In terms of gender, 19.4% of tattooed people were women and 17.6% were men. Individuals with at least one tattoo were significantly younger than those without (mean age 36 years vs. 42 years) and the main age group with tattoos was currently aged between 25 years and 34 years [5]. Also, in a French population-based study, the prevalence of tattoos in women aged ≥15 years was 19.1%, with the prevalence in the age ranges 25 to 34 years and 35 to 49 years reaching 30.2% and 24.4%, respectively [8]. Data on the prevalence of tattoos in patients with SLE are very scarce. In our study, a total of 147 patients with SLE (92% women) aged ≤55 years were asked if they had tattoos [3]. Also an age- and sex-matched control group consisting of 66 healthy subjects with tattoos was included in the study. Among patients with SLE 19% had ≥1 tattoos (median (interquartile range, IQR) age: 33 (27-28) years). In line with the general population, the main age group with tattoos was from 25 to 34 years, which was slightly lower than in the French study (30.2% vs. 20.8%). On the one hand, this data is important because it highlights that cosmetic tattooing in SLE is not an anecdotal phenomenon but rather a frequent and increasing practice with a similar prevalence to that observed in the general population.

On the other hand, in our study we found no significant differences in the characteristics of tattoos between patients and controls. Thus, the number of tattoos, time with tattoos, location, size and colour of ink were similar in both groups. There were also no differences in the subject of the tattoos, although they were very diverse and the sample size was too small to find significant differences. This suggests that the preferences and aesthetic tastes of patients with SLE appear to be similar to those of the general population and that there was no a relevant factor associated with SLE that would condition the choice of characteristics or number of tattoos.

COMPLICATIONS RELATED TO TATTOOS IN SLE

In the general population, tattooing can result in a wide variety of complications, whose prevalence and incidence are unknown. Hypersensitivity reactions to pigments are currently the most common complication and they are not predictable. In some skin diseases such as psoriasis and chronic discoid lupus erythematosus (CDLE), among others lesions in the tattooed area can develop, which is known as the Koebner phenomenon. More rarely, some cutaneous malignancies such as melanoma, basal and squamous cell carcinoma may settle on tattoos [9].

In our study, more than half of the participants (the proportion of patients and controls was similar) suffered acute transient reactions of varying intensity consisting of erythema, induration and/or oedema with or without pain or itchiness. In this way, the majority of tattooed individuals experience these nuisances and they are not considered a complication but rather as "belonging to the natural history of tattoos" [10].

Conversely, no patients reported relevant complications associated with the tattoo other than the initial normal inflammatory reaction. In the general population, red pigment is the one most commonly associated with adverse reactions and a few cases of CDLE in areas of this colour, among other reactions, have been reported [11]. Despite the fact that 19% of SLE patients had been partially or fully tattooed with red ink, none of them experienced any complications.

In our study, approximately 70% of the patients had experienced lupus skin involvement at some point during the disease; however none of them had active cutaneous lupus at the time of getting the tattoo. A history of cutaneous lupus should not be a contraindication for tattooing, however it should not be done when cutaneous lupus is active or unstable, or on the active lesion [2].

Whether tattoos should be contraindicated in people prone to infection, as occurs in patients with SLE, is a matter of debate [12]. The predisposition to infection in these patients is mainly determined by two factors: the use of immunosuppressive (IS) treatments for the control of the lupus activity (especially corticosteroids at a high dose, classic IS and biological therapies) and some SLE-related abnormalities such as leukopenia and hypocomplementemia, among others [13,14]. The degree of immunosuppression varies widely depending on the disease activity. Currently, the majority of SLE patients is clinically inactive or experiences a low-activity disease state, adequately controlled with low to moderate-dose treatments. In our study [3], at the time the tattoos were done, 30% of patients had a SLEDAI=0 (inactive disease) and 96% had a SLEDAI ≤ 4 that corresponds to low disease activity. Likewise, 50% received

corticosteroids at low-dose (median (IQR) prednisone dose: 2.5 (0-2.5) mg/day) and 30% took IS drugs at a low-to-moderate dose as maintenance treatment. Furthermore, 87% of the tattooed patients were being treated with hydroxychloroquine, which is demonstrated to have a protective effect on infections in SLE [13,14]. In contrast, no patients received high doses of IS drugs or biological therapies. Therefore, in general terms, immunosuppression should not be a strict contraindication for tattooing in SLE [2] and an individualised assessment of each case should be carried out before making a decision. However, because there is no evidence for patients with high disease activity that require high doses of corticosteroids, IS drugs or biological therapies, it would be wise to delay or avoid tattooing and reconsider it when the disease is controlled and the treatment has been withdrawn or is being taken as a maintenance dose.

IMPACT OF TATTOOS ON THE DISEASE ACTIVITY

For those with SLE, not only the aesthetic result of the tattoo should be taken into account, but also its impact on disease activity and prognosis. However, as mentioned earlier, to our knowledge no study has investigated this matter before ours. In this study, after the tattooing we did not observe a worsening of the SLE activity or a worse prognosis in terms of increase in organ damage in the medium or long term. Thus, the number of flare-ups/patients/year after a median (IQR) 17 (12-20) months of follow-up was similar to that recorded during the same period prior to the tattooing. None of these flare-ups were severe and the time elapsed between the tattoos and the flare-ups was too long to establish a cause-effect relationship between both events. Moreover, when we compared the clinical and immunological characteristics, disease activity, organ damage and active treatments of patients with and without tattoos after a median (IQR) 4 (1-10) years of follow-up, no significant differences were found.

DISCUSSION

Additionally, no patients reported a subjective worsening of lupus in the months following the tattoo. In line with these data, it is noteworthy that almost half of tattooed SLE patients had ≥ 2 tattoos (some of them more than 5) suggesting that many patients perceived this practice as safe. Tattoos should not be systematically contraindicated in SLE. This practice seems especially safe in patients with inactive or low disease activity status and those receiving moderate dose treatments. Since there is no evidence on the impact of tattoos on SLE patients with a high-activity disease that require high-dose treatments, it would be wise to delay tattooing until the disease is controlled with maintenance treatments at safe-doses. Patients should be asked about their desire to get a tattoo. Any decision made should be well informed by your treating physician in order to choose the most appropriate clinical moment and avoid possible complications. In this review, some considerations such as the motivations for getting a tattoo, prevalence, characteristics of tattoos and safety in patients with SLE are reviewed.

Fundamental lupus erythematosus is a persistent immune system connective tissue problem, with a heterogeneous show. Fundamental lupus erythematosus is an insusceptible intervened foundational infection related with assorted irregularities of the skin, kidney, and hematological and musculoskeletal frameworks.

CONCLUSION

The overall side effects are not explicit. Normal appearances might incorporate arthralgias and joint inflammation, malar and other skin rashes, pleuritis or pericarditis, renal or CNS association, and hematologic cytopenias. SLE is mutable in its signs and follows a backsliding and transmitting course. Sickness seriousness is wide going, SLE can introduce significant difficulties due to accumulated organ harm, coagulation abandons. SLE is described by an autoantibody reaction to atomic and cytoplasmic antigens. It is conceivably lethal relying upon organ contribution.

CONFLICT OF INTERESTS

The author has declared no conflicts of interest.

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