

# Silent Danger: Elderly Population with Tattoos

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In view of the ageing process of the world population, we are observing an increase in the frequency and incidence of comorbidities and/or systemic conditions of the patients. This increase, both in the elderly population and in the incidence of diseases, is also evident in dental clinics. Dental professionals must be attentive to anamnetic issues, including disease history; administration of drugs and their respective side effects and drug interactions; and finally the clinical needs (symptomatic or asymptomatic) of patients.

An invisible concern, but one that is very common, even among the elderly, is tattoos. It should be borne in mind that, with ageing, various habits and customs from youth will undoubtedly accompany these patients throughout their lives.

Tattoos are being seen frequently in elderly patients in the dental clinic. The risks of tattoos, arising from a lack of care (particularly in terms of biosafety) and their interaction with mucocutaneous tissues, are widely known<sup>1,2</sup>. However, the concept that a tattoo, no matter how inert it may seem, can and does cause a chronic inflammatory process in patients who wear the adornment until the end of their lives is massively ignored<sup>1</sup>.

Regardless of the risks involved in making it, it should be borne in mind that the pigment used and installed in the wearer's dermis can be considered a foreign agent - an antigen - and that this stimulates the calling up of antibodies - defence cells, including mast cells. The degranulation of mast cell membranes in the face of the aggressive agent (paint) releases various chemical mediators such as histamine, serotonin, proteases, tumour necrosis factor (TNF), as well as vasoactive and pro-inflammatory substances such as leukotrienes, prostaglandins, cytokines and chemokines, all of which are involved in inflammatory and allergic reactions. This cellular cascade constitutes the chronic inflammatory process, of low intensity but long duration<sup>1</sup>.

In addition, tattoo ink can contain carcinogenic chemicals such as primary aromatic amines, polycyclic aromatic hydrocarbons and metals. The tattooing process determines the immune response that can cause the translocation of tattoo ink from the injection site. The deposition of tattoo pigment in the lymph nodes has been confirmed. From this perspective, there are various inflammatory, infectious, neoplastic and aesthetic pathological conditions resulting from tattoos. Approximately 67% of people who get tattoos have papulonodular and granulomatous reactions, which are the most common<sup>1</sup>. A Swedish research has suggested that tattoos are a risk factor for malignant lymphoma<sup>2</sup>.

Recently, in Brazil, during the International Congress of Implant Dentistry held in September, Prof. Dr. Daniel Buser, from the Harvard School of Dental Medicine, reported the continued presence of the chronic inflammatory process in the face of tattoos, identified as a risk factor for the loss of dental implants.

Brazil ranks 9th in terms of the population that has tattoos. Italy (48%) ranks first, followed by Sweden (47%), the USA (46%), Australia and Argentina (43%), Spain (42%), Denmark (41%) and the UK (40%). France (36 per cent) is in 10th place<sup>3</sup>.

Public health policies to advise and guide patients and the population, as well as suggestions for relevant legislation that obliges tattoo artists to inform and guide patients about possible risks, should be drawn up and implemented. In Brazil, patient orientation campaigns can be covered by laws or regulations. Examples include the law that obliges the tobacco industry to run anti-smoking campaigns, restricting the use or advertising of smoking products<sup>4</sup>. Or even the ANVISA (National Health Surveillance Agency, a Brazilian body similar to the FDI) regulation that obliges food industries and businesses to display nutritional information on packaging regarding the calories ingested in food<sup>5</sup>.

Access to information should be obligatory and a right of the patient. After all the doubts have been clarified and the patient has been informed - Tattoo: do what you want, but be informed!

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

1. Chalarca-Cañas D, Caviedes-Cleves M, Correa-Londoño LA, Ospina-Gómez JP, Velásquez-Lopera MM. Tattoos: risks and complications, clinical and histopathological approach. *An Bras Dermatol* 2024 Jul-Aug;99(4):491-502. doi: 10.1016/j.abd.2023.07.004.
2. Nielsen C, Jerkeman M, Jöud AS. Tattoos as a risk factor for malignant lymphoma: a population-based case-control study. *EClinicalMedicine* 2024 May 21;72:102649. doi: 10.1016/j.eclinm.2024.102649
3. <https://www.worldatlas.com/society/which-country-s-residents-have-the-most-tattoos.html>
4. Brazil. Ministry of Health. National Health Surveillance Agency. Resolution no. 360/2003. Mandatory nutritional labelling: guidance manual for the food industry [in Portuguese]. Available in: <https://antigo.anvisa.gov.br>
5. Brazil. Law N. 9.294/1996. Provides for restrictions on the use and advertising of smoking products [in Portuguese]. Available in: [https://www.planalto.gov.br/ccivil\\_03/leis/19294.htm#:~:text=LEI%20N%C2%BA%209.294%2C%20DE%2015%20DE%20JULHO%20DE%201996.&text=220%20da%20Constitui%C3%A7%C3%A3o%20Federal,Art.](https://www.planalto.gov.br/ccivil_03/leis/19294.htm#:~:text=LEI%20N%C2%BA%209.294%2C%20DE%2015%20DE%20JULHO%20DE%201996.&text=220%20da%20Constitui%C3%A7%C3%A3o%20Federal,Art.)

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