The Wild Market of Natural Cosmetics of Obscure Safety

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Dear Editor,

Herbal medicine is still traditional worldwide; it remains strong in Asia and was widely practiced in western medicine until about a century ago. According to the WHO, about 80% of the world’s population still uses largely plant-derived medicines and cosmetics for primary health care, especially for skin diseases [1].

There are several definitions of phytocosmetics, created by companies simply to sell products: natural, ecological, eco-dermo-compatible, hypoallergenic (see classification systematized by Skineco). In reality, 100% natural cosmetics do not exist.

Contrasting the common belief of the safety of natural ingredients and the promotion of the safety dogma of naturals by the industry, a broad range of skin problems related to plants have been known in dermatology for many years, including phototoxic reactions and irritant and allergic contact dermatitis [1–4].

According to the literature, 6–11% of interviewed patients reported adverse effects to natural products. When patients were also tested with an integrative botanical series, relevant positive reactions were found from 16 to 59% of cases [5, 6]. However, this problem could still be underestimated, because the patient often stops the indicted product without notifying the doctor, or due to the physician’s misdiagnosis. In fact, only a careful anamnesis leads to suspect an allergic contact dermatitis from phytoextracts. Diagnostic tools in dermato-allergology (i.e., patch test) are relatively useful in these cases. The baseline series patch test can detect positive reactions to perfumes, preservatives (isothiazolinones, formaldehyde, parabens mix), lanolin alcohols, and rosin, that may be contained in natural products as well in other cosmetics. The botanical integrative series often do not adequately represent the heterogeneous composition of plant extracts, variable according to the different raw material origin, the productive technologies, and the possible oxidative reactions during storage. Propolis, tea tree oil, and Compositae mix are the most frequently used positive botanical extracts from the integrative series patch tests [5].

Tests with the individual ingredients of the natural product responsible for allergic contact dermatitis would be desirable, but the manufacturers are often reluctant to supply them.

Ninety-one percent of natural products contain fragrance ingredients, generally in the form of essential oils and phytoextracts, which are separately labeled and are not recognized as fragrances. Therefore, the dermato-allergist must warn patients of this [7].

Noteworthy is the widespread use of essential oils in cosmetics, for aromatherapy, and by beauty workers, such as masseurs and beauticians [8, 9]. However, when these oils are exposed to atmospheric oxygen, light, humidity, and high temperatures their composition is altered, leading to more sensitizing compounds.

COLIPA established concentration limits for some essential oils (e.g., tea tree oil) in cosmetics. In addition, the association with antioxidants, proper storage, and packaging to minimize light exposure are recommended [10].

Moreover, the most important global board, the International Organization for Standardization (ISO), has published the ISO 16128 standard in order to more objectively quantify the content of natural and organic cosmetic ingredients in the finished product, but without being completely exhaustive.

In Europe, Regulation No. 1223/2009 regarding cosmetics also includes phytocosmetics.

In conclusion, despite popularity and tradition, there is still chaos out of reach of affordable toxicological testing and also out of reach of regulatory control. However, today the concept of “no safety problem” of natural products has reached a level of religious belief among people. Therefore, the widespread “natural product” abolition is not a possible solution to reduce the adverse reactions from phytoextracts.

The solution could be research into new extraction techniques to obtain higher-quality products and greater care to limit oxidative degradation. Finally, a control board would be necessary in Italy (such as the Commission E in Germany) for the systematic study of the therapeutic and adverse effects of natural extracts and for their standardization in herbal drugs and phytocosmetics.

Key Message
The growing interest in natural treatments requires specific attention from physicians.

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