17980

Severe nodulocystic acne in a renal dialysis patient managed successfully with low-dose isotretinoin

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A 31-year-old woman with a background of a previous simultaneous pancreas-kidney (SPK) transplant with failed kidney, on long-term dialysis, was referred to our dermatology service for management of severe nodulocystic acne. She had type 1 diabetes, with secondary retinopathy, nephropathy and gastroparesis. Examination revealed severe nodulocystic acne affecting her face and neck, with evidence of scarring. Previous treatments included conventional topical treatments, as well as oral oxytetracycline. Her regular medications were mycophenolate mofetil, prednisolone, isoniazid, and paroxetine. Six months of low dose isotretinoin treatment (20 mg daily) resulted in complete resolution of her acne and there have been no adverse side effects reported thus far. Nodulocystic acne is not uncommon in renal dialysis patients. The mechanism of this whilst still largely unknown, has previously been postulated to be related to the toxic effect of uraemia. Nodulocystic acne often has a significantly negative impact on a patient's quality of life and often fails to respond to conventional acne therapy. The use of low dose isotretinoin to treat acne in haemodialysis patients has been scarcely reported with only Lin et al's prospective study in 1999 showing significant efficacy and minimal side effects. Renal elimination of isotretinoin and its metabolites is known to be negligible, and isotretinoin is protected from haemodialysis removal through its protein binding. Our case adds to the evidence that low-dose isotretinoin can safely and successfully be used to treat severe nodulocystic acne in renal dialysis patients, leading to a significant improvement in patients' quality of life.

Commercial disclosure: None identified.

17999

Evaluation of ascorbic acid and a capsulated ascorbic acid-containing serum for protection against ambient particulate matter <2.5 μm and ultraviolet radiation

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Background: Air pollution causes severe damage to the skin but is less recognized in this context than UV radiation. It has been shown that particulate matter with a diameter less than 2.5 micrometers (PM2.5), a major component of air pollution, induces skin damage partially through overproduction of reactive oxygen species (ROS). Ascorbic acid (vitamin C) is a known antioxidant that may protect the skin from pollution and UV. However, ascorbic acid is easily degraded during storage. This study aimed to evaluate the efficacy of ascorbic acid and its more stable derivatives, as well as a capsulated ascorbic acid—containing serum, against PM2.5- and UV-induced ROS overproduction.

Methods: The efficacy of ascorbic acid, its derivatives, and a capsulated ascorbic acid-containing formula was evaluated in two independent in vitro primary keratinocyte-based ROS models (ROS induced by UV at 5 J/cm^2 or PM2.5 at 150 mg/mL).

Results: Compared with its more stable derivatives, ascorbic acid was more effective at reducing ROS induced by either PM2.5 or UV. Similar to the ascorbic acid, the capsulated ascorbic acid-containing serum significantly reduced ROS induced by PM2.5 and UV.

Conclusions: Ascorbic acid was more effective in reducing ROS induced by UV or PM2.5 than the more stable derivatives tested. Capsulation of the ascorbic acid-containing serum was effective at preserving the activity of ascorbic acid in terms of ROS reduction, which might help to prevent premature aging caused by environmental aggressors such as PM2.5 and UV.

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18018

New technique to remove brow tattoos by means of salabrasion and a tattoo machine

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Background: The removal of face tattoos is challenging. The two usual treatments are laser and surgical excision. Salarabsion is an ancient tattoo removal technique that involves a local osmotic shock which induces crenation of the pigment-laden macrophages and their elimination with the exudate A novel drug delivery technique that uses a tattoo machine (MMP) has been successfully used to treat other skin disorders. We tested the use of this technique to remove brow tattoos.

Objective: To present a new technique to remove brow tattoos using salabrasion and a tattoo machine.

Methods: Five patients with undesirable brow tattoos received local anesthesia (lidocaine without vasoconstrictor). We then conducted microneedling of the area using the Cheyenne dermopigmentation machine (registered in the Brazilian national regulatory agency, ANVISA) and a cartridge with 7 needles. Immediately after this procedure, we applied table salt and covered the area with an occlusive dressing for 24 hours.

Results: All patients had significant tattoo depigmentation and satisfactory esthetic results. The effect was more evident in patients with more recent tattoos. Only one patient developed transient skin hyperpigmentation in the treated area.

Discussion: Salabrasion combines dermabrasion with salt to remove undesirable skin pigments. However, it can induce adverse events, including scarring. Therefore, less traumatic procedures to puncture the skin could be beneficial.

Conclusions: Microneedling using a tattoo machine followed by local salt application is an inexpensive, simple, and promising technique to remove brow tattoos. This novel technique produces good results and transient adverse events.

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18037

Chile's diverse exposome and its impact on the skin

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The term exposome describes the totality of exposures to which an individual is exposed to from conception to death. In this research, we measured its influence on the facial skin of women in different cities of Chile, country with varied latitudes and climates. This descriptive study recruited in a random way 1910 women in five different cities and had 2 stages: 1) a self-administered questionnaire about exposome risk factors (stress, sun exposure, smoke, alcohol, use of sunscreen), and 2) instrumental measurements with VISIA of wrinkles and spots, among others. The statistical analysis consisted in the comparison of the mean for independent samples and the fluorescence intensity calculation to compare 3 or more means. Statistical significance was set at a value of $\leq$.01. Regarding to wrinkles, in Santiago, capital city, the average number was greater than the rest of the studied cities (90.6 $\pm$ 34.3, P = .010). In Puerto Montt, the southernmost city in the study, the average number was lower than the rest of the cities studied with 78.2 $\pm$ 26.7 wrinkles compared with the rest of the cities (85.1 $\pm$ 30.4, P = .030). Regarding spots, the average number of dark spots in women between 20-24 years was 155 vs 203 over 45 years (P = .637). Regarding UV spots, the average was 303 and 471 respectively (P = .530). No statistical differences were found between the cities. This is the first study measuring the impact of exposome on the skin of a large population in different latitudes of the same country.

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