

New Rx for allergic contact dermatitis -- ScienceDaily

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Research led by Nicolas Bazan, MD, PhD, Boyd Professor and Director of the Neuroscience Center of Excellence at LSU Health New Orleans School of Medicine, has found a promising new treatment for allergic contact dermatitis that offers an alternative to corticosteroids and their possible side effects. The research is published this month in *Dermatology and Therapy*, available here.

Working in an experimental model of allergic contact dermatitis, the research team developed a mixture of antioxidants and moisturizers, combined with potent free radical scavengers and inhibitors, which suppressed an inflammatory response to the irritant. The cream relieved itch, reduced swelling and protected peripheral nerves in the affected area.

Allergic contact dermatitis (ACD) is caused by exposure to an allergen in sensitive people. Sensitizing allergens include nickel and gold, perfumes, soaps or organic compounds. Although removal of the allergen reduces symptoms, recovery can take weeks. The authors also note that allergic contact dermatitis represents 5-10% of doctor visits.

One of the current primary treatments for severe allergic contact dermatitis is the use of corticosteroids. Long-term use of corticosteroids can result in skin atrophy, spider veins, loss of skin color or corticosteroid acne. They can disrupt the skin's barrier and lead to adrenal suppression, altered growth, hypertension, hyperglycemia, insulin resistance and cataracts, and they may increase the risk for certain cancers.

The experimental cream, on the other hand, successfully treated allergic contact dermatitis in mice, without the side effects of corticosteroids. The new cream works in a different way by preventing or stopping the process that initiates inflammation.

This project is part of a long collaboration that Dr. Bazan developed with Dr.

Ricardo Palacios-Pelaez from Spain on inflammation, immunity and neurodegenerative diseases.

"Now with the new cream, we targeted some of those mechanisms in a relatively less complex condition in the skin, always with translational-enabling goals," said Bazan.

Other members of the research team included Drs. William Gordon, Surjyadipta Bhattacharjee and Bokkyoo Jun at LSU Health New Orleans Neuroscience Center of Excellence, as well as Drs. Virginia García López, David Rodríguez Gil, Javier Alcover Díaz, Fernando Pineda de la Losa, Ricardo Palacios Peláez, Concha Tiana Ferrer and Gabriela Silvina Bacchini from Madrid, Spain; along with H  l  ne Varoqui at Ochsner.

"While our results are very promising, additional studies are needed to determine the ideal duration of treatment and the most efficacious concentrations of the active components in the test formulations that will best alleviate ACD," Bazan concluded.

The research was supported by a grant from the National Institute of General Medical Sciences, as well as LSU Health New Orleans Neuroscience Center of Excellence.

This work is part of Bazan's innovative research searching for novel fundamental principles of tissue/organ injury involving inflammation, immunology, genetics and epigenetics. Most of his efforts are focused on responses to damage to the brain and retina and include Parkinson's, Alzheimer's, pain, Macular degeneration and traumatic brain injury, but as these findings demonstrate, fundamental discoveries have broad application.

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Journal Reference:

William C. Gordon, Virginia Garc  a L  pez, Surjyadipta Bhattacharjee, David Rodr  guez Gil, Javier Alcover D  az, Fernando Pineda de la Losa, Ricardo Palacios Pel  ez, Concha Tiana Ferrer, Gabriela Silvina Bacchini, Bokkyoo Jun, H  l  ne Varoqui, Nicolas G. Bazan. A Nonsteroidal Novel Formulation Targeting Inflammatory and Pruritus-Related Mediators Modulates Experimental Allergic Contact Dermatitis. *Dermatology and Therapy*, 2018; 8 (1): 111 DOI: 10.1007/s13555-018-0223-8